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Paper Trail Flawed in Ohio Election, Study Finds

E-voting has benefits, but still a calculated risk, report says

BY MARC L. SONDINI

A report questioning the accuracy of Diebold Election Systems' e-voting equipment in a recent Ohio election gives more ammunition to critics who doubt the viability of electronic voting technology.

The report, issued publicly last week, was based on a study funded by the Board of Commissioners of Cuyahoga County, Ohio. It claimed that even backup paper records meant to assure voters that their votes were tabulated correctly can prove inaccurate.

Nearly 10% of the paper copies of votes cast in the election were "either destroyed, blank, illegible, missing, taped together or otherwise compromised," the report said. Ohio law requires that each machine include a so-called voter-verified paper audit trail listing each vote — and considers that the official ballot.

"There are some serious process issues that need to be addressed," said Steven Hertzberg, project director at the Election Science Institute, which conducted the study of a May 2 primary election in Cuyahoga County.

ESI is a San Francisco-based nonprofit organization founded in 2002 to promote the development of auditable election systems and help ensure that all votes cast are counted accurately.

"What we found is that when you take this [technology] out of the lab and put it in a real work environment with real voters, you're going to have some issues you need to resolve," Hertzberg said.

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Stress Causes Strains in IT Shops

Job demands overtax some workers, data center pros say

BY PATRICK THIBODEAU
BALTIMORE

Information technology is an occupation that is wedded to terms such as *uptime*, *reliability* and *high availability*. And for some IT workers, it can be a pressure-filled, round-the-clock atmosphere marked by the risk of late-night calls, the tension of dealing with agitated end users and ongoing worries that a mission-critical system will fail on their watch.

All of that can create dangerous levels of stress within IT departments, according to William Cross, CIO at Seminole Electric Cooperative Inc. in Tampa, Fla. Last week, in a presentation here at a conference sponsored by the mainframe-oriented Share user group, Cross said he thinks that the amount of stress experienced by IT workers is similar to what emergency first-response personnel face.

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"Stress is a big deal with us," Cross said, claiming that IT staffers have high divorce rates and face possible health problems if they — and their managers — don't address the stress issue.

Heads nodded in the audience as Cross made his points, and some other attendees at the conference said afterward that his words rang true.

The amount of stress that IT

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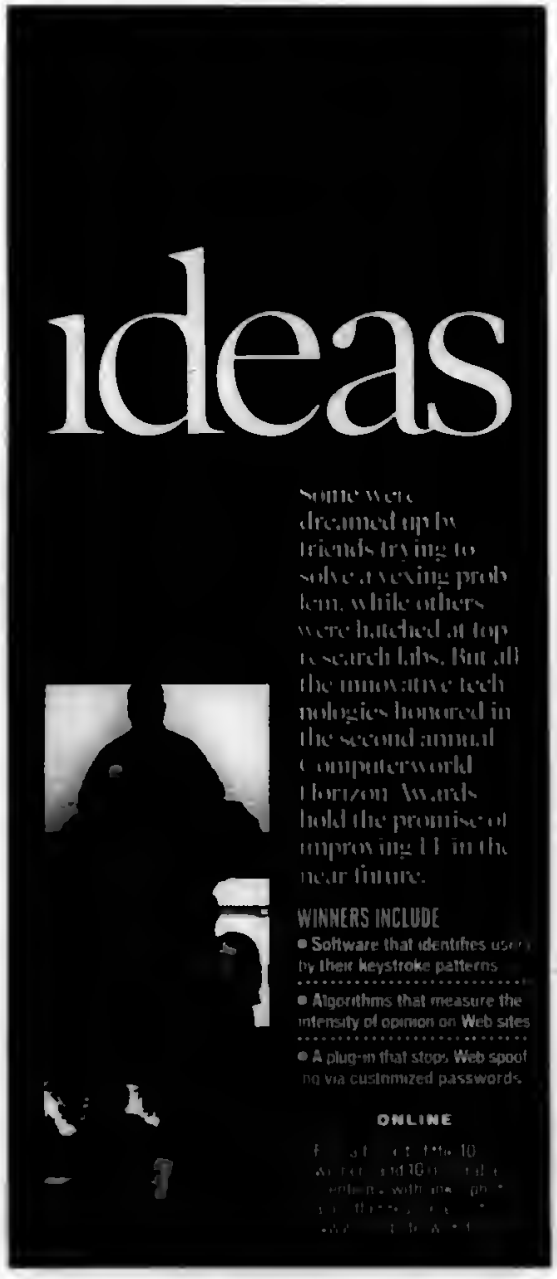


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DEPARTMENTS/RESOURCES

At LinuxWorld, upstart vendors tried to capture the systems management spotlight with open-source tools that are easier to use — but more limited — than the top technologies on the market.

Data warehousing appliances, which bundle hardware with databases and other software, can speed data analysis queries.

Retailer Beall's cited the bundling of ERP, financial, human resources and other applications in SAP for Retail in its decision to buy the product to replace multiple systems.

A grid created by a group of universities could help forecast hurricane storm surges.

A Chinese court will hear a lawsuit filed against Dell by customers who claim they received lower-end laptop processors than promised.

Klaus Zimmer, president and CEO of SAP AG's Northern Asia operations, talks about the state of IT in China.

The VA plans to spend $3.7M on data encryption software for all PCs and mobile devices.

COMPUTERWORLD HORIZON AWARDS

ideas

Take a look at the developers and technologies that earned top honors in the second annual Computerworld Horizon Awards program. **PACKAGE BEGINS ON PAGE 28.**

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THE FOLLOWING STORIES CAN BE FOUND ONLINE AT COMPUTERWORLD.COM/THISWEEK:

For a full list of the 10 award winners and 10 honorable mentions, as well as resource links and team photos, visit our Web site.

Find a listing of research associations as well as corporate research and development groups, and university and government labs where technologies such as those honored in this year's Computerworld Horizon Awards program are being developed.

AT DEADLINE

Mass. Sets Plug-in Strategy for ODF

During a meeting on Friday with state officials and advocates for people with disabilities, Massachusetts CIO Louis Gutierrez said the state will postpone its Jan. 1 deadline to roll out open-source software that can save documents in the Open Document Format. Instead, later this year, it will adopt a plug-in strategy to fulfill a policy calling for executive branch agencies to save files in ODF. The state also committed to design, buy, certify and develop training for software that is accessible.

Bugs Force Delay In Firefox 2.0 Release

The Mozilla Foundation has delayed availability of the next version of its open-source Firefox browser by a month to fix some persistent bugs in the software. Version 2.0, code-named "Bon Echo," had been due on Sept. 26 but will now make its debut on Oct. 24. The test schedule has also been adjusted, with the second beta now due on Wednesday.

Dell's Profit Slumps; SEC Launches Probe

Dell Inc. blamed PC price cuts for a 51% decline in its second-quarter profit. Dell also revealed that it is being investigated by the U.S. Securities and Exchange Commission for revenue-recognition and financial reporting issues prior to fiscal 2006.

	REVENUE	PROFIT
Q2 '07	$14.1B	$502M
Q2 '06	$13.4B	$1B

HCA Loses Systems With Patient Data

HCA Inc. said 10 computers containing thousands of files listing unpaid bills of Medicare and Medicaid patients for hospitals in eight states, as well as "some" Social Security numbers, were stolen from an undisclosed regional office. HCA said the office was secured by keypad lock technology and video surveillance.

Upstarts Make Inroads In Systems Management

IT execs praise simplicity of tools but also cite limits

BY ERIC LAI
SAN FRANCISCO

FOR CLIFF BELL, chief technology officer at software vendor Phoenix Technologies Ltd., installing systems management software from GroundWork Open Source Inc. two years ago has saved him face, money and even some sleep.

"My director of IT operations used to wake up at 5:30 every morning in order to give me a 7 a.m. report on any outages," Bell said last week. That became unnecessary after Milpitas, Calif.-based Phoenix began monitoring the 300 servers at its 12 offices worldwide with GroundWork's open-source technology.

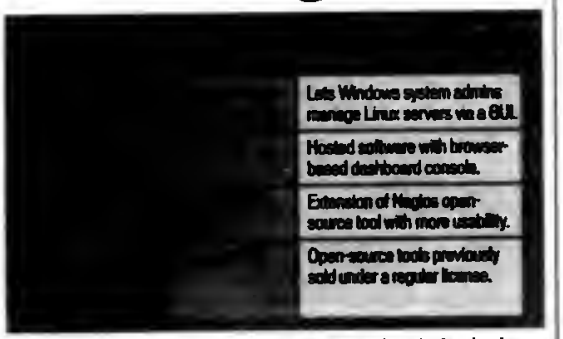
Big Savings

"My bosses don't ask me anymore if our systems are stable," Bell said. Moreover, he figures he has saved hundreds of thousands of dollars by choosing San Francisco-based GroundWork over a more established vendor such as CA Inc., IBM or Hewlett-Packard Co.

At the LinuxWorld Conference & Expo here last week, GroundWork and a handful of other upstart vendors tried to capture a share of the systems management spotlight.

For example, Austin-based FiveRuns Corp. announced its first product: software that can manage servers running Windows, Linux, Solaris and Mac OS X as well as open-source applications such as MySQL, JBoss, Apache and Tomcat. And San Francisco-based Hyperic Inc. said its open-source systems management tools have been downloaded more than 10,000 times since they were released two months ago.

Michael Cote, an analyst at Denver-based consulting firm RedMonk, said enterprise systems management installations typically scale to cover thousands of devices and applications. But the end result "is usually a very long and expensive project," he added.



Vendors such as GroundWork and FiveRuns "are taking a clean-slate approach and coming up with some original user interfaces and workflows, and even overall revisitings of what systems management means," Cote said.

FiveRuns CEO Steven Smith said the browser-based tools his company is offering on a monthly subscription basis include lean consoles that give users the most relevant information. "With conventional systems management platforms, it's a badge of honor to display as many metrics as possible," he said. "We decided on a less-is-more approach."

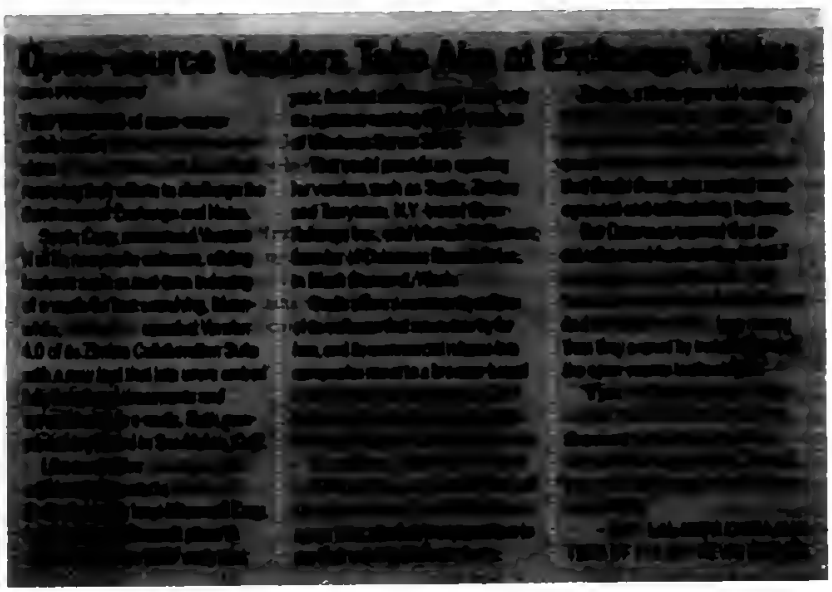
Hi5 Networks Inc., a San Francisco-based company that operates a MySpace.com-like social networking Web site, uses Hyperic's software to manage several hundred Web servers, according to CTO Akash Garg. Through plug-ins, Hyperic HQ monitors all of Hi5's key applications, including the open-source Apache Web server software and PostgreSQL database, Garg said.

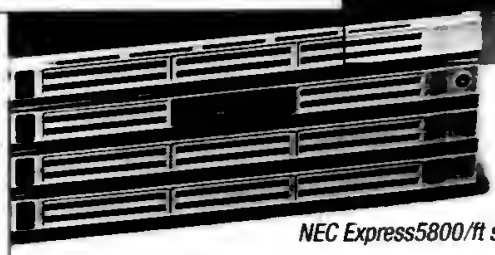
Yodlee Inc., a Redwood City, Calif.-based company that develops online banking applications, switched from HP OpenView to GroundWork Monitor last year. Ganesh Narasimhan, operations engineering manager at Yodlee, said the GroundWork software has proved more adept at managing his company's 800-plus servers and its custom-built software. GroundWork Monitor is also cheaper and doesn't require a full-time employee to manage it, Narasimhan said.

Not everything is perfect, though. To guard against crashes, Yodlee runs one GroundWork server that monitors its IT infrastructure plus a second system that serves as a backup to the first. "It's not a foolproof fail-over solution, and there's still some room [for GroundWork] to improve on that," Narasimhan said.

Garg said the downside of Hyperic's minimalist dashboard is that the required level of detail about problematic systems isn't always available.

"The dashboard only shows you what it thinks you need to be worried about at the moment," he said. "I would love a version where you can also see everything if you want." ▸





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Emerging Appliances Speed Data Analysis

Bundled systems are replacing relational databases at some firms

BY HEATHER HAVENSTEIN

COMPANIES THAT are fed up with sluggish processing speeds and the tedious chore of maintaining traditional databases are increasingly turning to data warehousing appliances to analyze large data sets.

The appliances, dedicated devices that include varying combinations of high-performance hardware with database, storage and other types of software, are usually preconfigured for specific tasks like strategic analysis.

O'Reilly Media Inc. last week was expecting to receive an open-source data warehouse appliance jointly developed by Sun Microsystems Inc. and San Mateo, Calif.-based Greenplum Inc. The appliance, unveiled late last month, includes a Solaris 10-based Sun Fire X4500 data server and Greenplum's massively parallel distribution of the open-source PostgreSQL database.

Spending Time on Data

Roger Magoulas, director of market research at Sebastopol, Calif.-based O'Reilly Media, said the book publisher plans to use the appliance to perform analysis on 1TB and 2TB data sets that the company expects will double in size every year. The data sets are mostly made up of unstructured text and "didn't lend themselves to adequate performance with regular databases," he said.

With the appliance, "you can spend more time on the business reason you have the data, rather than optimizing or tuning the database, because you have unlimited disk space and parallel database performance," Magoulas said.

O'Reilly now uses the open-source MySQL database running on a cluster of machines, he added. The appliance will replace those systems, he said.

Doug Mackie, vice president of enterprise technology at The NPD Group Inc., said his company has been using a data warehouse appliance from Datallegro Inc. in Aliso Viejo, Calif., since April as a query engine for its customers and to process point-of-sale data. The Port Washington, N.Y.-based market research firm has also formed a so-called sandbox test bed to evaluate other areas where the appliance could be used, according to Mackie.

With the appliance, NPD was able to reduce the time needed to process some queries from hours and days down to minutes and seconds, Mackie said. Previously, the company completed the queries on an Oracle database.

'Single-Minded Device'

"It is a single-minded device, and it just runs the queries," Mackie said. "We think we will see efficiency and speed and that DBA activity requirements will be greatly reduced from an appliance versus continuing with the relational databases."

However, he noted that while the appliances have "great potential," the technology is relatively new and the vendors are inexperienced.

IDC in Framingham, Mass., estimates that the appliance market will reach $500 million in five years from $50 million to $75 million today.

Mark Beyer, an analyst at Gartner Inc. in Stamford, Conn., said companies are buying the appliances mainly because they are preconfigured and therefore easier to put into production than traditional databases. However, he cautioned that an appliance tuned for a specific use "will fail in some cases, and in other cases it will have performance problems" if it's used for a different application.

Ahold USA Inc., which operates the Stop & Shop, Giant Food and Tops Markets supermarket chains, has been using Netezza Corp.'s Netezza Performance Server appliance to analyze transactional level data from its Stop & Shop stores for the past two years, said Brent Buelo, manager of data warehouse services at the Quincy, Mass.-based company.

Next year, Ahold plans to begin using the appliance to analyze data from another of its chains.

Ahold users are getting faster queries with the appliances. One report that took 72 hours to run using the former Oracle-based system now takes nine hours, said Buelo. He added that users can now get answers to queries that couldn't have been answered before because queries took too long and timed out before providing a response. ▶

Freddie Mac Overhauls Underwriting System

Home lender adds tools to automate programming

BY HEATHER HAVENSTEIN

The Federal Home Loan Mortgage Corp., or Freddie Mac, is overhauling its core loan underwriting system with an eye toward automating much of the manual programming required to respond to fluctuating market conditions.

McLean, Va.-based Freddie Mac, which provides funds for residential mortgages, this fall plans to go live with the third generation of its Loan Prospector replatformed software. To fund the mortgages, Freddie Mac buys loans from banks and then turns them into securities that are sold to investors.

The custom-built application, one of four mission-critical systems run at Freddie Mac, is used to evaluate loans before buying them from banks. The updated system will add business process management tools from Pegasystems Inc. in Cambridge, Mass. The company wouldn't disclose the cost of the upgrade.

The Loan Prospector software links directly to loan-origination systems from home lenders such as Wells Fargo & Co., Countrywide Home Loans Inc. and Bank of America NA to evaluate whether loans Freddie Mac is considering for purchase meet its criteria, said Joe Smialowski, executive vice president of operations and technology.

The current version requires a time-consuming, manual programming effort two to three times a year to account for changes in the rules used to evaluate loans, he said.

"Given the size of these customers and the nature of the contracts we have with them, there are typically complex terms and conditions," he said. "Our desire was to be able to make a quantum leap in terms of our ability to describe our terms and conditions using rules-based and workflow technology."

Dynamic Selection

Pegasystems said its PegaRules business rules engine, which powers its BPM suite, can dynamically select the right process or business rule depending on various factors.

The BPM updates will allow for the software to be easily updated whenever terms and conditions need to be changed, Smialowski said.

He noted that as more lenders seek to offer 40- and 50-year mortgages to customers, Freddie Mac will have to update Loan Prospector to accept these loans. "Our ability to respond to that need [quickly] puts us in a more advantageous position," said Smialowski.

Freddie Mac also liked the audit-trail capabilities in the BPM tool, which let the system diligently check any changes to rules, according to Smialowski.

Freddie Mac expects the use of the BPM tools to cut the operating and maintenance costs for the updated system by 30% compared with the current version's costs, Smialowski said. He estimated that it will take 12 to 18 months to covert all its mortgage lender clients to the new system.

The approach Freddie Mac is taking — abstracting rules out of the code to allow them to be changed more easily — is becoming a best practice among many corporations, said Janelle Hill, an analyst at Gartner Inc. ▶

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BRIEFS

Fire Hazard Forces Dell Battery Recall

Dell Inc. is recalling 4.1 million laptop computer batteries because of a fire hazard. The lithium-ion batteries were installed in 2.7 million laptops sold in the U.S. and 1.4 million sold overseas between April 2004 and July 18, 2006. Dell said it is cooperating with the U.S. Consumer Product Safety Commission. The agency described the recall as the largest ever in the consumer electronics industry.

CA to Cut Jobs After Profit Plunges

CA Inc. disclosed plans to cut about 1,700 jobs after reporting that profits fell 64% in its fiscal 2007 first quarter, which ended June 30. The layoffs are part of a cost-reduction plan that is expected to yield about $200 million in annual savings by the end of fiscal 2008.

CA By The Numbers

	REVENUE	PROFIT
Q1 '07	$956M	$35M
Q1 '06	$927	$97M

AOL Acquires Chat Technology Maker

AOL LLC last week acquired Totakaseche Holdings Inc., which does business as Userplane and has licensed its chat technology to more than 100,000 Web sites and online communities. The terms of the deal were not disclosed. AOL said the acquisition will allow it to expand the reach of its instant messaging service and to target specialized communities.

W3C Updates Mobile Graphics Standard

The World Wide Web Consortium has published a draft of an updated standard aimed at letting mobile devices display the same graphics as desktop computers. The specification, SVG Tiny 1.2, has new capabilities that improve support for mobile devices. It can accommodate video, audio and scripting, plus style-related graphics features.

ON THE MARK

HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY BUZZ BY MARK HALL

Develop a Sixth Sense About IT . . .

. . . with software that measures the effectiveness of your programmers. You won't need extrasensory perception to know how well your application development teams are working if you use a new tool that keeps tabs on their activities, claims Pamela Roussos, vice president of marketing at 6th Sense Analytics Inc. in Raleigh, N.C. She says 6th Sense's namesake software includes plug-ins for dozens of popular development tools, such as Eclipse, Visual Studio, JBuilder, Emacs and even the venerable vi editor for Unix systems. The plug-ins monitor key performance metrics that indicate how well a given programmer or team is doing, according to Roussos. For example, 6th Sense has devised the concept of Active Time, which tracks keyboard and mouse clicks for specific files so you can know precisely how much work takes place on them in any given period of time. Flow Time is 6th Sense's metric for when developers "are in the flow" for 20 or more minutes on a given task, Roussos says. You also get to see which of your app dev tools are being used and which are gathering digital dust. By Q4, 6th Sense will let you flag specific thresholds so you can be alerted when development lags or exceeds the milestones, Roussos says. Annual pricing starts at $980 per developer.

AJAX bolsters security for . . .

. . . delivering apps to and users. One of the hottest trends among Web application developers is using AJAX — Asynchronous JavaScript and XML — to manage the display of data on an end user's screen. Gregory Murray, AJAX architect at Sun Microsystems Inc., contends that the technology is ideal for corporate applications where security is a high priority. For one thing, he says, browsers that run AJAX-enhanced applications don't need plug-ins, which often are required when IT wants to shift established client/server programs to execute within a browser. The AJAX model eliminates the added security headaches that plug-ins bring, Murray claims. And although fledgling AJAX apps are known for good performance, Murray suggests that future browsers will be equipped with AJAX rendering engines to further improve application performance.

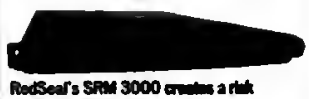
Nabeel Youakim, a vice president at Citrix Systems Inc., says AJAX development also fits nicely into the Fort Lauderdale, Fla.-based company's method of virtualizing applications by running all of their logic on a centralized server while letting a browser manage the display of information locally. "We deliver the last mile of access to the user in an AJAX environment," he says.

When your only real property is . . .

. . . intellectual property, protecting it is vital. But not every start-up can afford to build a fully secure data center to guard its intellectual crown jewels and document that it's complying with government regulations. That's especially true for biotech start-ups, says Warren Perry, a compliance adviser at Qumas Ltd.'s U.S. headquarters in Florham Park, N.J. To help them, Cork, Ireland-based Qumas this month will begin offering its Qumas Compliance Suite as a hosted service. The company's software will be loaded on a user-owned server but managed at a secure third-party hosting site, Perry says. The software ensures that end users are accessing the latest versions of documents, and it controls and tracks who reviews the information. It also lets users submit data electronically to regulatory agencies. An average installation costs between $150,000 and $200,000. Hosting fees are additional.

Map out your risk conditions . . .

. . . before you go adventuring on your network. Prior to sending out teams to plug holes in your network, you should use one of RedSeal Systems Inc.'s SRM 3000 security appliances to gather data on the network's risk profile, says Johnnie Konstantas, senior director of marketing at the San Mateo, Calif.-based company. She says that the appliance's software gathers system data from routers, firewalls and servers and then creates graphical risk and threat maps based on parameters such as patch levels, application traffic patterns and access control lists. Konstantas says that a chief security officer within a company can use the risk map to prioritize what parts of its network to fix first, and IT staffers can use the threat map to drill down into the specifics of problems and get information about potential solutions.



RedSeal's SRM 3000 creates a risk profile of your network.

For example, the map can point them to a patch that's needed for a router. Late next month, Red Seal will add support for PatchLink Corp.'s automated patch management tools. Pricing for the SRM 3000 starts at $25,000.

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BRIEFS

AMD Releases New Opteron Processor

Advanced Micro Devices Inc. has released a new version of its Opteron processor, the popular server chip that has helped the company compete with Intel Corp. Several vendors, including Hewlett-Packard Co., IBM and Sun Microsystems Inc., have agreed to sell servers using the new Rev F chip, formally called the Next-Generation AMD Opteron processor. The chip adds support for virtualization and DDR2 memory.

SAP NetWeaver Funds Go to Questra

SAP AG has invested an undisclosed sum in Questra Corp., a maker of intelligent device management software. SAP said the move marks the first use of its $125 million global SAP NetWeaver Fund, which was established in May to make investments of $5 million or less to companies building products based on the SAP NetWeaver middleware.

HP Sales Rise on Strong PC Business

HP posted better-than-expected financial results that were buoyed by strong growth – 8% year over year – in the company's personal systems group in its fiscal third quarter.

HP BY THE NUMBERS

	REVENUE	PROFIT
Q3 '06	$22.6B	$1.9B
Q3 '05	$20.9B	$73M

Philadelphia CIO Joins Civitium

Dianah Neff, departing CIO of the city of Philadelphia, has agreed to join Civitium LLC as a senior partner overseeing its international practice. Neff, who had been CIO of Philadelphia since 2001, will also advise the consulting firm's key U.S. clients on strategy, policy and communications planning matters. She will begin work at Alpharetta, Ga.-based Civitium next month.

Beall's Turns to SAP For Retail Applications

Retailer will retire multiple legacy systems for integrated vertical package

BY MARC L. SONGINI

BEALL'S INC. helped SAP AG in its effort to expand its business in the retail market by agreeing last week to purchase the integrated SAP for Retail application.

The Bradenton, Fla.-based retailer, which has 600 department and outlet stores and $1.2 billion in annual revenue, plans to replace several aging packaged and homegrown systems with the SAP software.

Joe Iannello, vice president and CIO, declined to disclose the value of the contract with SAP, except to call it a multimillion-dollar deal. Beall's will start rolling out SAP for Retail in September, he said.

Iannello said Beall's plans to use most of the modules in the integrated SAP for Retail software, including the point-of-sale, back-end ERP, finance, human capital management, merchandise management, supply chain and master data management applications.

Beall's currently runs several packaged and homegrown systems, including back-end AS/400 software and 20-year-old, point-of-sale tools from IBM, Iannello said. "We've gotten a lot of mileage out of the existing systems."

Though the older applications are still functioning, they are starting to hit performance constraints as the company grows, he said. In addition, he noted that few IT workers are familiar with Beall's legacy systems. Finding technology professionals experienced in SAP, however, shouldn't be too difficult, Iannello said.

Beall's was looking to use a single, comprehensive, integrated package to modernize its IT systems, he said.

The company also considered Oracle Corp.'s retail software, but SAP proved to be more attractive because of the core ERP offerings and product road map, said Iannello.

He said the software will likely be installed in three phases over several years. SAP's payroll, human resources and point-of-sale applications will be installed in the first phase, he said.

Ultimately, SAP will help Beall's automate processes, improve its supply chain and inventory management systems, and enable improvements in merchandise planning and stock allocation and replenishment.

In recent years, SAP has been pushing hard to expand its presence in various vertical markets, as has rival Oracle, which entered the retail market with its acquisition of Retek Inc. just over a year ago. In the past two years, the number of SAP for Retail customers in the Americas has doubled to to 200, SAP claims. In the beginning of 2006, SAP Americas Inc. launched a separate retail subsidiary for North America.

SAP has been winning customers in retail by emphasizing its core ERP strengths, said Michael Barrett, an analyst at AMR Research Inc. in Boston. SAP acquires many customers in vertical markets by highlighting the integration of packages like SAP for Retail with its human resources, ERP and financials products, Barrett said. ▸

Bradenton, Fla.-based Beall's has 600 department and outlet stores

Sun CTO Details Progress of Open-source Java

BY HEATHER HAVENSTEIN

Sun Microsystems Inc. last week unveiled a portal that will detail its efforts to make its Java programming language available as open-source code. After the announcement, Bob Brewin, Sun's chief technology officer for software, talked to Computerworld *about the state of the company's effort to make Java SE (Standard Edition) code available to the open-source community.*

What is the goal for the new portal? The goal for the portal is transparency. We want to make sure that this is not just open-source, but an open community. There have been open-source projects in the past industrywide where it is just, "Here is our source, do what you want." The only way we can do that is to really engage the existing open-source communities out there and ask them for their advice, guidance and opinions.

Where does the effort to open the source code of Java stand today? We are currently planning to release significant pieces of our functionality in the fall. A Java programming compiler and the HotSpot Virtual Machine are examples. As we make sure the source is ready to go . . . we'll begin releasing code over a period of time until we get the entire body out there.

What types of problems have you encountered so far in this effort? Identifying the various intellectual property encumbrances that might exist. An example is, within the graphics library, there are font rasterizers which allow you to represent characters on the screen. We have licensed those from other companies. We may ship other parts of the platform as open-source, and [the rasterizer] will ship as a binary. Once Java is open-sourced, the ideal situation is the community can help us create a replacement technology for it by developing it in open-source.

We are trying to determine what the right governance model is and what the right licensing should be. We need to improve the infrastructure [for the community], provide a way for tracking bugs and feature requirements, and to do source-code management. It is not just creating a site where you can download the source. It will be a site where people can check in changes, for instance.

Do you expect that the open-source effort will lead to changes to the Java Community Process? We are not entirely sure. There could be changes to it. We want external parties and committees to take part in the process. I don't know what those changes will be yet. The principles upon which Java was created . . . still have to be there. Ideally, open-sourcing will not change the JCP.

Have you decided on a plan for releasing other parts of the Java code to the open-source community? No. It is basically driven by requirements by the community and how rapidly we can get it ready for open-source. It comes down to resources, time and legal [issues] more than anything else. ▸

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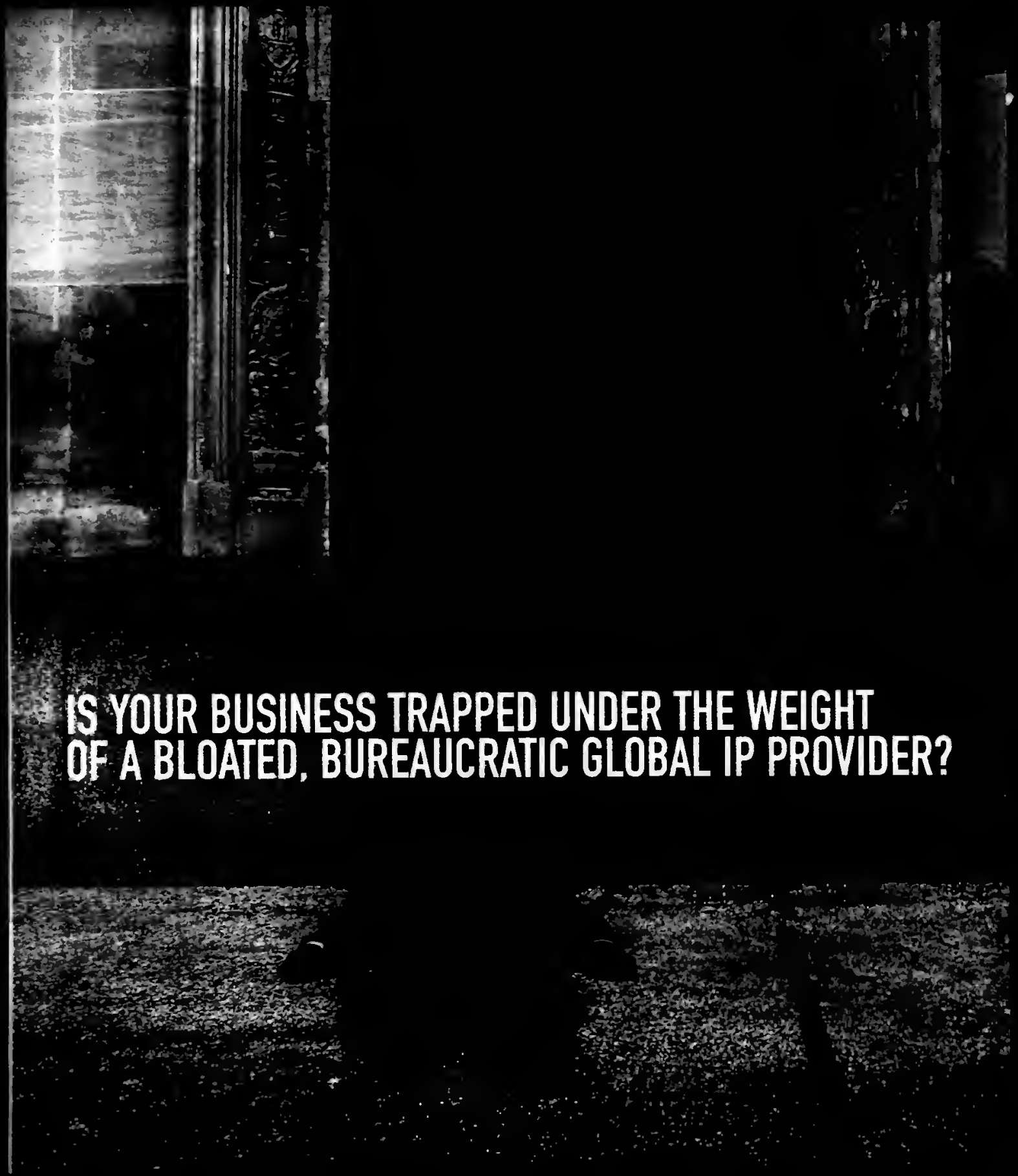
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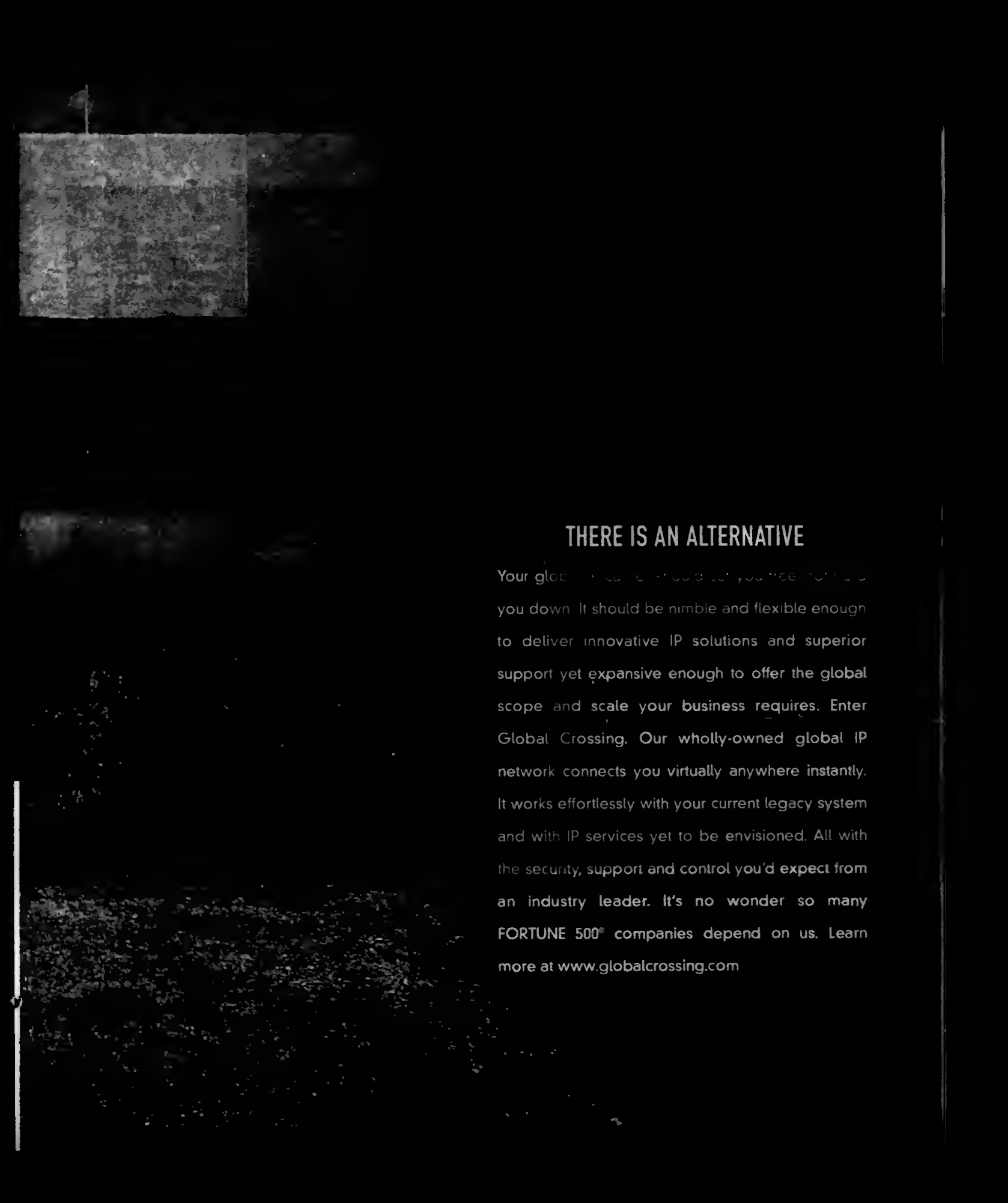

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Continued from page 1

Stress

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He added that he has found professional freedom in his job at State Farm, as evidenced in part by his ability to attend the Share conference.

DeCrane said he doesn't know if IT attracts people who enjoy stressful jobs, as Cross contended. But the profession probably does appeal to individuals who "get stressed out pretty easily," said DeCrane, who added that he thinks that IT staffers tend be intense and typically dig right into their work.

Dale Slaughter, a mainframe systems programmer at insurer Aegon USA Inc. in Cedar Rapids, Iowa, said he can't tell whether the level of stress in IT is any higher or lower than it is in other occupations. But Slaughter did say that the demands placed on IT workers are increasing.

"There is a lot of pressure for [system] availability, and there is more pressure with [Sarbanes-Oxley Act] requirements," Slaughter said. "It takes a lot more time to get something done because of all the forms you have to fill out or all the approvals you have to go through."

Cross, who spoke at the Share conference about the need for IT workers to reduce the stress in their lives, said that he became interested in the topic some 25 years ago when he attended a stress-related session at another user conference. His doctoral thesis at Nova Southeastern University in Fort Lauderdale-Davie, Fla., was a study of the relationship between stress and the quality of software code. He said he found that as programmers feel more stress, they write lower-quality code.

No Nights or Weekends

Cross puts his views on stress into practice at Seminole Electric, a cooperative that serves 1.6 million customers in 46 Florida counties. For instance, he requires thorough testing of software code before it's launched in an effort to avoid production problems that require his staffers to work late — or to return to the office during the middle of the night.

"I work very hard to make sure that my staff doesn't work overtime," Cross said. "We go to great lengths to help keep people from being called on nights and weekends." And if he thinks that any of his employees are "job-addictive" and are working too many hours, Cross will insist that they take time off.

In addition to showing concern for his workers, Cross has practical reasons for taking the approach that he does. People who work long hours and are up in the middle of the night are more likely to make mistakes, he said. Staff turnover also can be a problem at stress-prone companies. In contrast, "we have an awful lot of people who have been there for a while because they want to be, and that retention kind of speaks for itself," Cross said.

Not everyone in the audience agreed with what Cross had to say. An IT worker at a large U.S. government agency, who asked that he not be identified, said his impression was that on a scale of 1 to 10, Cross thought that IT would score a 9 for stress levels. "I would put it between 5 and 6," the government worker said.

But Jamie Giovanetto, a Louisville, Colo.-based IT consultant who worked as a volunteer for Chicago-based Share at the conference, said that Cross' talk resonated with him. "If this convention center was open all night, that PC workroom they have for the volunteers — there would be people in there all night," Giovanetto said.

IT Execs Have to Target Stress, CIO Says

BALTIMORE

William Cross, CIO at Seminole Electric Cooperative Inc., spoke with *Computerworld* at last week's Share Inc. user group conference after leading a session on the importance of reducing stress levels within IT departments. Excerpts from the interview follow:

What makes IT such a stressful occupation? One of the big reasons is we work very closely with computing equipment that in today's world doesn't fail. That's high-stress because if there are errors, they are probably ours. We also have this high desire to please others, and that tends to get IT people to put in more hours and take things more seriously than perhaps another group.

Is there stress across the board, or are some IT jobs less stressful than others? Certainly, jobs vary. There are jobs in some of the tech-support areas, for example, that may be more stressful than a job in a scheduling group or a computer operations group. But they all have different stresses.

What can an IT manager do to alleviate some of the stress that people are feeling? One of the things you can do is use the "management by walking around" technique, and know what your people are facing. A lot of stress isn't necessarily job stress. You can't alleviate personal stress, but if you are sympathetic or empathetic, it may help a little bit. You can give people time to deal with the things that are causing them problems. You can ensure that your people work a normal workweek – and you probably need to enforce that periodically by telling someone to go home.

How much stress is caused by factors that may be outside of a manager's direct control, such as offshore outsourcing of IT jobs? I studied that. Interestingly enough, somewhere in the neighborhood [of] 40% of the impact is caused by on-the-job stress; 60% is caused by personal, life-experience stressors.

The manager can, of course, deal more directly with the on-the-job stress things. You can't eliminate them because deadlines will always exist, [and] customer demands will always exist. But you can deal with some things, like unreasonable demands. You can deal with expectations by having [workers] set the goals and the deadlines or at least participate in that setting, rather than just dictating [to them].

One of the most effective techniques in leveling the stress is participant management – let your people participate in the process. You pay them a lot of money for their brainpower, and it's kind of foolish to ignore it.

You're obviously sensitive to the issue of stress, but let's say another manager isn't, and an employee is worried about his stress level. How does that employee communicate his concerns about excessive stress to his manager? You can, of course, try to talk to your manager, and your manager may be sensitive to it. Many companies have employee assistance programs that are private referral – they can go talk to someone who is a professional in dealing with stress levels and get help without the company being aware that they are fighting that battle. And one of the big problems, I think, is a lot of the very serious stressors are also very personal. If you have a serious disease, you may not want to tell the people at the office if you can avoid it. IT workers have people problems just like everybody else, and then we layer some of the other problems of the IT environment on top of the people problems.

– PATRICK THIBODEAU

Beta Work Passes Stress Tests

BALTIMORE

ONE TASK that can cause stress for IT workers is beta-testing software. But even though beta testing means extra work and hassles such as conference calls that can last hours, some mainframe users said at last week's Share conference that the experience is well worth it.

"You get a chance to play with the toys before anyone else," said Martha McConaghy, an IT manager at Marist College in Poughkeepsie, N.Y. "That's the route of why you got involved [in] computers in the first place."

McConaghy was a beta tester for IBM's z/VM 5.2 release, a virtualization software upgrade that early adopters started running about a year ago – six months before it became generally available.

Not everyone agreed with her about the benefits of being a beta tester, though.

"We don't want to be on the leading edge," said Bruce Green, an IT manager at MIB Group Inc., a Westwood, Mass.-based association that provides fraud-detection services to insurers. "We need to have solid programs, and we can't possibly contaminate anything on our system."

"There is a possibility that something our users require may not work the same, or work incorrectly," said Jim Vincent, a systems engineer at Nationwide Mutual Insurance Co. in Columbus, Ohio.

But Vincent thinks the trade-offs involved in beta testing are worth making. Nationwide received the z/VM upgrade in July 2005 and put it into production use last December. By jumping on the technology quickly, the company was able to upgrade before other users did, Vincent said.

Another plus is having direct contact with the developers at IBM who are working on software products, he added. There are also some altruistic reasons for getting involved. Occasionally, Vincent said, other Share members find out about his testing work and tell him, "Thanks. You fixed it before we had to."

– PATRICK THIBODEAU

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Computer Grid Aims to Predict Storm Surge

BY PATRICK THIBODEAU

Universities in several Southeastern states are jointly building a computer grid and application that they hope can help scientists predict storm surges well in advance of approaching hurricanes. Such a system could give government officials a better idea of when to order evacuations.

Improving storm surge forecasting requires the harnessing of large amounts of computing power to quickly analyze meteorological and oceanographic data that is needed to develop forecast models, project leaders said.

"The challenge here is to be able to create a product" that can extend the window for accurate forecasts to 72 hours, said Gary Crane, director of IT initiatives at the Washington-based Southeastern Universities Research Association (SURA), which includes 62 schools. Crane said storm surge forecasts are accurate about 24 hours ahead of time using current technologies.

Help for New Orleans

Crane added that the effort may also help New Orleans officials better predict when to lower flood gates on the Lake Pontchartrain canal system.

The storm project, called the SURA Coastal Ocean Observing and Prediction Program, is funded by the National Oceanic and Atmospheric Administration and the U.S. Office of Naval Research.

The grid itself has been in development for two and a half years and to date links about 14 SURA members. It is used for a variety of research projects, noted Crane.

There are currently about 900 CPUs in a heterogeneous environment on the grid, a number that's expected to double with the recent purchase of IBM Power servers by three member universities. The expanded system will likely boost the computing power of the grid from about 3 trillion floating-point operations per second, or 2 trillion calculations per second, to about 10TFLOPS, Crane said.

IBM earlier this month announced the start of a three-year contract to provide hardware and software to Louisiana State University, Georgia State University and Texas A&M University and work closely with university researchers to exploit the large-scale computing capability of the grid.

Jonathan Eunice, an analyst at IT research firm Illuminata Inc. in Nashua, N.H., said the efforts by universities to share a grid may also help solve some problems facing commercial grid developers.

Data management and coordinating resources are "still not a thoroughly understood part of the construction process," Eunice said. ▶

GLOBALDISPATCHES

An International IT News Digest

Chinese Court Agrees to Hear Suit Against Dell

XIAMEN, CHINA

A COURT agreed this month to hear a class action lawsuit brought by customers of Dell Inc. who claim that the company shipped them laptop PCs without promised high-performance processors.

The lawsuit, which charges Dell with false advertising, was filed July 26 despite the company's decision to offer refunds to the disgruntled users.

The issue arose in June, when a group of Chinese customers complained that they had bought Dell laptops based on Intel Corp.'s Core Duo T2300 processor but received machines with the lower-end T2300E chip.

Blaming the mix-up on faulty marketing materials, Dell apologized to the users in early July and offered a full rebate to customers who returned their computers. At the time, the company also said that virtualization technology in the higher-end Intel chip was generally intended for workstations and servers rather than laptops.

"Many customers have accepted our apology, [and] some have accepted our refund offer. We are still working it out with others," Frances Kam, Dell's director of customer sales support in China, wrote in a recent post on the company's Direct2Dell blog.

■ SUMNER LEMON, IDG NEWS SERVICE

German Government Funds Chip Research

FRANKFURT (ODER), GERMANY

GERMANY'S FEDERAL Ministry of Education and Research has agreed to spend €3 million ($3.8 million U.S.) to help fund research into singles hip systems for sensor networks.

The research project, called Lindem, is being overseen by IHP Microelectronics, a nonprofit, state-funded research institute located in this small city near the German-Polish border. Other companies participating in the project include Texswire AG and GreenWay Systems GmbH, which are also based in Frankfurt (Oder).

The funding being provided by the education ministry is part of a €150 million ($191 million U.S.) program to support high-tech research in the formerly communist-controlled eastern part of Germany.

IHP focuses on designing system on chip semiconductors that integrate multiple functions on a single piece of silicon. The Lindem project's goal is to produce wireless sensor systems that use little energy but offer high performance, the research institute said. The chips could be used to monitor things such as the temperature and stability of aircraft components or the muscle reflexes of medical patients, according to IHP.

■ JOHN BLAU, IDG NEWS SERVICE

Users Get Access to Google's Blogging Site

BEIJING

GOOGLE INC.'S free weblog service is once again accessible in China without the use of a proxy server, indicating that the Chinese government has lifted its apparent blocking of the blogging site.

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Chinese officials rarely discuss Internet censorship and haven't commented about the Blogger site, which Google acquired in early 2003.

According to a recent study by the Beijing-based China Internet Network Information Center, 24% of China's 123 million Internet users frequently read blogs. Other sites providing unblocked blogging services in China include Microsoft Corp.'s Windows Live Spaces (formerly MSN Spaces) and San Francisco-based Six Apart Ltd.'s TypePad.

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Language Support May Boost African PC Use

LUSAKA, ZAMBIA

MICROSOFT CORP.'S release in recent months of several Language Interface Packs (LIPs) for Windows XP will likely expand computer use in African countries, according to government officials in the southern part of the continent.

Peter Tembo, Zambia's permanent secretary for communications and transport, said the LIPs for the African languages Setswana, Kiswahili and isiZulu enable people to use PCs in their local languages. "One of the reasons why so many people in Africa are not using computers is the language barrier," Tembo said.

The Setswana language pack was released last month, while the isiZulu and Kiswahili LIPs were launched earlier this year and last year, respectively. The LIPs enable the installation of local-language user interfaces on top of the English-language version of Windows XP.

Kiswahili is spoken in many countries in eastern Africa, and the African Union adopted it as an official language in 2004. Setswana and isiZulu are both spoken in southern Africa.

■ MICHAEL MALAKATA, IDG NEWS SERVICE

Offshore IT Vendors Reap Competitive Gains

BANGALORE, INDIA

MAJOR VENDORS of offshore IT services in India continue to make competitive gains and have begun to pose a serious threat to the top global services providers, according to market research firms IDC and Forrester Research Inc.

A study released last week by Framingham, Mass.-based IDC concluded that Indian outsourcing firms will continue to grow at steady rates because of efforts to strengthen their onshore presence, develop relationships with top executives at their customers and invest in new hosting infrastructures.

IDC predicted that all offshore IT services vendors will capture $29.4 billion (U.S.) in worldwide customer spending by 2010. Barry Rubenstein, an IDC analyst, said he expects outsourcing firms in India to account for 70% of that total.

Meanwhile, Forrester said in a report released this month that the major global providers of IT services are continuing to lose ground to large Indian firms, especially in the application services market.

■ JOHN RIBEIRO, IDG NEWS SERVICE

92%

Percentage of the 17.4 million online shoppers in England who take active precautions against fraud, such as using secure payment areas on Web sites and limiting their shopping to well-known sites.

SOURCE: BRITISH COMPUTER SOCIETY, SWINDON, ENGLAND

Compiled by Mike Bucken.

Briefly Noted

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■ DAN NYSTEDT, IDG NEWS SERVICE

said it plans to invest $125 million (U.S.) to increase its ownership stake in Mumbai, India-based I-Flex Solutions Ltd. to 55.1%. Oracle currently owns 52.5% of the financial software vendor's stock. I-Flex intends to use Oracle's investment to fund its planned $122.6 million acquisition of Mantas Inc., a Herndon, Va., vendor of compliance and anti-money-laundering software and services.

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in Tokyo and Asknet AG in Karlsruhe, Germany, have created a joint venture that will offer electronic software distribution services in Asia. The new venture, called Asknet BB, will operate out of Tokyo and target its services at Asian software vendors looking to use electronic distribution as a new channel. SoftBank holds a 60% stake in the venture.

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GLOBAL

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■ JOHN BLAU, IDG NEWS SERVICE

INTRODUCING FORWARD-LOOKING BACKUP.

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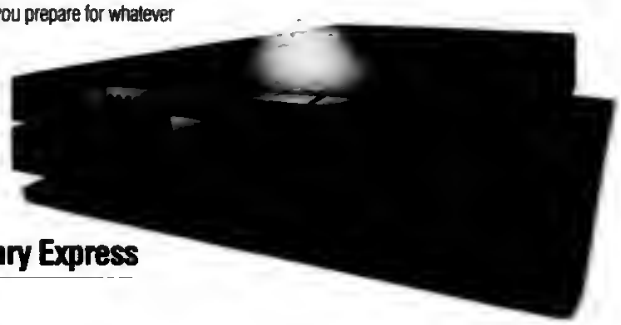

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China Is Slowly Embracing IT, Says CEO of SAP in Asia

BY SUMNER LEMON

As PRESIDENT and CEO of SAP AG's Northern Asia operations, **Klaus Zimmer** has overseen the company's Chinese business since 1997. Today, China's economy is booming. State-owned companies have tossed aside the shackles of a planned economy and are looking overseas for new markets and opportunities, a transformation that Zimmer has witnessed firsthand. In an interview with the IDG News Service at SAP's Beijing office, Zimmer discussed opportunities and challenges presented by China's fast-moving market.

Is the hype about the potential of the Chinese software market justified? Good question. I'm actually not so bullish as people who watch China from the outside. I see more shadows than light. I think that after 2008, when Beijing hosts the Olympics, there will be an adjustment in the economy.

There is huge overproduction in many, many sectors. It's going to lead to huge overcapacity in steel, in automotives, in home appliances, and it will have repercussions on the world market.

Nevertheless, for the software market, we are on a stable platform. At SAP, we have close to 1,300 customers and 2,300 installations. That's quite substantial. The majority, of course, are smaller companies, but more than 400 are big companies.

Are Chinese companies starting to see IT as a potential competitive advantage? It's a homegrown system here. [Chinese companies] are well aware that IT can help, but they do not rely on IT for a competitive edge. They are mainly focused on labor-intensive manufacturing. They are sitting here, and they do not see efficiency gains from the ERP system helping the bottom line.

Once they go outside China and go to the U.S. or European markets, they change their thinking. For example, we had Lenovo running SAP for six years before they acquired IBM's PC division. When they became an international company, they gave us a contract that was 10 times bigger within a year or so of the acquisition. International exposure clearly tells Chinese companies that they have to change; otherwise, they cannot compete in the world market. One of the biggest growth engines for our revenue is the internationalization of the Chinese companies.

What is the status of the CIO position in Chinese companies? Ten years ago, there was no CIO. The classic Chinese company had a general manager, a party secretary — who was the most powerful guy — and a chief engineer. These three guys managed the company. Today, you have the CIO, the CFO, a guy who is doing the investor relations and so on. It's becoming more common, especially in the banking business, where the CIO is quite powerful.

Can Chinese software companies become international competitors to global vendors like SAP? I don't think so. They are not growing beyond their language barriers. They are not a global competitive force on the world market. They possibly have a role to play in Chinese communities worldwide, but not beyond this.

What holds them back? None of them speak English. It's a big challenge for Chinese companies to become international. The country was delinked from the world market for 40 or 50 years. Today, when somebody is using Chinese ERP software like [that from Beijing-based Ufida Software Co.], you don't have a multinational version, and you don't have multinational support. To build that is extremely difficult.

An international Chinese company cannot rely on domestic players. That's very clear today, and it will be true for quite some years to come.

Is it easy to recruit highly skilled programmers and engineers straight out of universities in China? We generally don't get the quality of people we need. The education system is not providing them. What we have to do is train them, and that's an issue. I don't think you can come here, parachute in, and build a viable management system that can carry a huge organization out of nothing. It's not possible.

You have to build the culture, you have to build the skills, you have to build the expertise. The universities here are not teaching the right stuff. The same problem exists in Europe. In Germany, they also are not teaching the right skills. It's not really close to the necessities of the market. ▸

Lemon is a reporter for the IDG News Service.

Oracle Updates PeopleSoft CRM

BY MARC L. SONGINI

Oracle Corp. this month started shipping the next iteration of its PeopleSoft Enterprise CRM applications, Version 9.0. The rollout is the most significant release of the software since Oracle bought out its onetime ERP rival about two years ago, analysts said.

Among the enhancements in the updated applications are tighter links to Oracle's next-generation Fusion middleware, which is based on a service-oriented architecture (SOA), and modifications geared toward the financial services and communications industries, according to the vendor.

One PeopleSoft CRM 8.9 shop, DePaul University in Chicago, provided Oracle with input during the Version 9.0 development process and now plans to evaluate the software for a possible rollout.

Audrey Bledsoe, CRM craft team leader at DePaul, said that among the software's most attractive features is its ability to dynamically change the user interface for case management.

Bledsoe said the case management feature can present a different on-screen view depending on the end user's role and therefore can support different processes for different departments.

The new SOA enhancements, along with Oracle's Fusion middleware, will likely make it easier to integrate 9.0 with DePaul's other applications, she said.

If the evaluation is positive, the application could be rolled out by the second quarter of 2007, Bledsoe said.

The new version supports 19 new Web services that can be used to integrate the 9.0 application with third-party software or to do things such as convert a Web page directly into a service.

Oracle said the new version also adds a link to the company's XML Publisher software that can help manage document exchange. In addition, the upgrade includes integration with Business Process Manager, based on the Oracle Business Process Execution Language, which can help companies craft and deploy workflows over disparate systems, according to the vendor.

NEW FEATURES

PeopleSoft CRM 9.0

The application is mostly targeted at the installed base of PeopleSoft CRM users rather than potential customers, noted John Webb, vice president of enterprise application strategy.

Oracle is treating its recently acquired Siebel Systems Inc. software as its default CRM suite for new CRM customers, said Webb.

Webb said current customers were demanding improved usability in the new version, so Oracle modified the application to reduce the number of keystrokes needed to accomplish repetitive tasks.

The launch of PeopleSoft 9.0 may reassure current customers that their applications will be further developed and supported and therefore reduce their motivation to consider software from rival vendors, said William Band, an analyst at Forrester Research Inc.

Companies are primarily interested in getting the most of their past investments in CRM systems, and PeopleSoft 9 addresses that need, he said. ▸

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Security Vendors Say Merger Will Give Them More Financial Heft

BY JAINUMAR VIJAYAN

LAST MONTH, Secure Computing Corp. agreed to acquire messaging security vendor CipherTrust Inc. for $273.6 million. The merged company will sell a range of enterprise gateway security appliances designed to help companies handle threats at the network edge and at the application level.

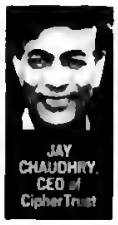
John McNulty, CEO of San Jose-based Secure Computing, and **Jay Chaudhry**, founder and CEO of Alpharetta, Ga.-based CipherTrust, spoke with *Computerworld* about their plans. Excerpts follow:

Why did Secure Computing and CipherTrust join forces?

McNULTY: We just see a great opportunity to establish an enterprise gateway security company. [And] the senior team at Secure has been stretched as the company has grown.

CHAUDHRY: There are some 800 security start-ups. Most of them are doing point products, and customers are getting tired of it.

These companies bring a lot of innovation because of their focus. But they don't quite have the financial strength or scale to be viable players. CipherTrust and Secure Computing combined will keep the focus and innovation of a start-up, but our size and financial strength is that of a large company.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How do you expect Microsoft's entry into the security tools business to affect your plans?

McNULTY: Microsoft clearly is a huge factor. But Microsoft's expertise is at the desktop. That is not an area we play in. It's where you see the likes of Symantec, McAfee and Trend Micro. That is where Microsoft is going to have the biggest impact. Microsoft doesn't sell appliances. So this is not something that we fear.

What about the moves by network equipment vendors like Cisco to get into the security business?

CHAUDHRY: If you look at where the Ciscos of the world are playing, it's at the network level. But if you look at the application gateway level, that is a newly emerging market — and so is the Web gateway market.

Our belief is that with our focus and with our innovation, we are going to be moving forward with some leading-edge solutions.

Do you agree with analysts who say users now will be more interested in integrated products than best-of-breed tools?

CHAUDHRY: In the last six or seven years, there has been a debate over best-of-breed vs. integrated products. [Some companies] have been making a big deal about best of breed. I think both approaches have issues.

We're seeing customers out there who have 10 to 15 boxes doing just the enterprise e-mail gateway. So they do want an integrated solution, but they aren't willing to take chances with second- and third-tier solutions. Where the market is moving is where you need the best-of-breed technology. But if you can deliver it in an integrated solution, that is when you win.

How have the threats that users face changed in recent years?

McNULTY: Most of the things we are intensely worried about today didn't exist 10 years ago. The threat has changed from the kid in the basement trying to impress his friends by defacing a Web site to organized crime and to very competent computer experts trying to steal and to commit crimes.

The FBI's most recent report said that the cost of fraud on the Internet to American businesses was $67 billion. That's just the tip of the iceberg, because it's only the amount that people want to own up to. Signature-based defenses designed to prevent [trouble] after the horse has escaped the barn are ancient technology.

VA to Add Encryption Tools to All of Its PCs

$3.7M rollout also includes agency's mobile devices

BY GRANT GROSS

The U.S. Department of Veterans Affairs last week said it plans to spend $3.7 million to install data encryption software on all of its laptop and desktop PCs as well as the handhelds and smart phones issued to agency workers.

In addition, VA Secretary R. James Nicholson has directed the department's IT and security managers to explore the possible installation of enterprise-level encryption technologies on all servers.

The encryption rollout is part of the VA's effort to boost information security following the theft in May of hardware containing the personal data of 26.5 million veterans and active-duty military personnel. The agency also has disclosed several smaller breaches since then, including the disappearance this month of a desktop system containing data on 38,000 veterans from an office of subcontractor Unisys Corp.

"I have promised America's veterans that I intend to make VA information security a model, and this expedited encryption program is a major step in that direction," Nicholson said in a statement.

Laptops First

The installation of the encryption software was scheduled to start Friday on the VA's laptops, and the agency said that Nicholson expects all of those systems to have the new tools within a month. Deployments on desktop systems and portable devices will follow.

SMS Inc., a veteran-owned company in Syracuse, N.Y., will handle the installation process for the VA. The agency said SMS will deploy a pair of software packages: GuardianEdge Technologies Inc.'s Encryption Anywhere and Trust Digital Inc.'s Mobile Edge Device Security tools.

The encryption technology will be installed on about 300,000 devices, said Warren Smith, vice president of marketing at San Francisco-based GuardianEdge. Encryption Anywhere is slated to be used on PCs and removable storage devices, according to Smith. The software from McLean, Va.-based Trust Digital will provide encryption capabilities on mobile devices.

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Meanwhile, Unisys last week announced that in cooperation with the FBI and the VA's inspector general, it is offering a reward of up to $50,000 for information that leads to the recovery of its missing desktop system.

Gross writes for the IDG News Service.

Stolen Laptop Includes Chevron Data

IN YET ANOTHER incident involving a stolen laptop, Chevron Corp. confirmed last week that it is searching for a password-protected system that was taken on Aug. 5 from an unidentified accounting firm doing work for Chevron.

The laptop contained the names and Social Security numbers of an undisclosed number of current and former Chevron employees, according to a statement that the San Ramon, Calif.-based company e-mailed to *Computerworld*.

The accounting firm was analyzing data as part of Chevron's regular efforts to demonstrate compliance with federal regulations governing employee benefits programs, according to the energy conglomerate. The theft has been reported to the appropriate authorities, and Chevron said that the laptop doesn't contain any data related to customers or transactions.

"Chevron is taking steps to avoid any recurrence, including reviewing and enhancing our security procedures for sharing information with outside accounting firms," the company said in the statement. It added that it wouldn't provide additional information about the theft for now out of concern that doing so "may be to the advantage of whoever currently has the laptop."

– LINDA ROSENCRANCE

Security Vendors Say Merger Will Give Them More Financial Heft

BY JAIKUMAR VIJAYAN

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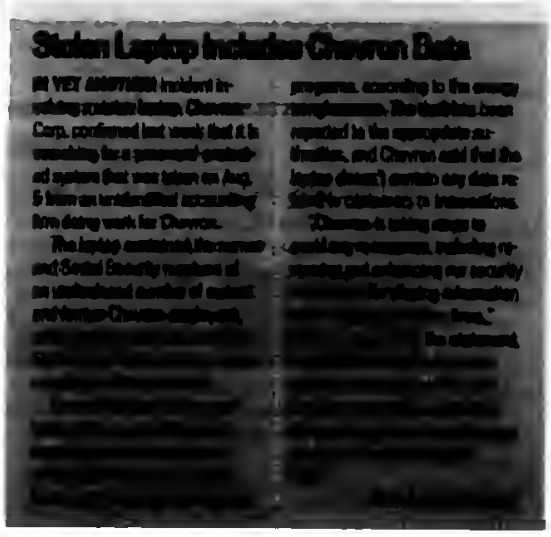
Stolen Laptop Includes Chevron Data

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At the heart of the Intel vPro technology-based PCs is the Intel Core 2 Duo processor.

technologies to help get the most out of resources and shrinking IT budgets.

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But there is much more to Intel vPro technology than having the world's best processor.[2] It contains technology that is the future of the digital office, with critical capabilities not found in previous generations of business PCs or software-only solutions. With Intel vPro technology, you can manage desktops that are powered down or whose OS is inoperable—all with full support for Microsoft Windows Vista Premium. With Intel vPro technology, you can spend less time managing your PCs and more time focusing on strategic business initiatives.

And Intel vPro technology delivers a new level of security and efficiency that can reduce total cost of ownership (TCO). For example, it means you can readily detect and locate PCs on the network even if they are powered down or do not have a functioning agent. What's more, you can remotely fix PCs even if the OS is down, automatically detect changes in manageability and security software, and immediately remediate security vulnerabilities to keep your environment more secure. Intel vPro technology-based PCs enable you to easily wake PCs, with greater security than alternatives like Wake on LAN.

Intel vPro technology-based PCs—with built-in manageability, strengthened security, and energy-efficient performance—will also include Intel's latest integrated graphics. That means they can provide performance for mainstream business applications and will be capable of delivering the full array of graphics interface features in the forthcoming Microsoft Windows Vista Premium operating system.

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The bottom-line benefits of Intel vPro technology include safer, better managed infrastructure and, as EDS discovered, more accurate asset inventory and improved end-of-lease inventories as well as the ability to remotely repair PCs. In short, the most crucial result is that PCs will truly begin to be more manageable. Intel vPro technology works with leading software solutions to deliver built-in manageability, strengthened security, and energy-efficient performance. Free up resources for innovation—shift your focus from PC management to accelerating business success with Intel vPro technology.

For more information about this and other key "next-generation" technologies, visit the Next-Generation IT web site: www.nextgenitinsights.com.

Global Services Giant looks to Intel® vPro™ technology

EDS is a leading global technology services company that pioneered the information technology outsourcing industry more than 40 years ago. Today, EDS delivers a broad portfolio of information technology and business process outsourcing services to clients in the manufacturing, financial services, healthcare, communications, energy, transportation, and consumer and retail industries and to governments around the world.

Recently, EDS investigated new hardware-based capabilities that are built into PCs with Intel® vPro™ technology. EDS concluded that these capabilities could significantly improve remote inventory, management, security, and update tasks, especially for PCs that are powered down, whose operating system is not working, or which do not have management agents installed.

In PCs with Intel® vPro™ technology, virtualization capabilities are built into system hardware. These capabilities deliver a tamper-resistant platform on which a dedicated virtual appliance can function. EDS now has the option of using an isolated, tamper-resistant space from which to service an inoperative user OS. Third-party vendors are already using this dedicated OS to build virtualized manageability and security applications for business PCs.

EDS is now expecting to use the embedded capabilities built into these PCs with Intel® vPro™ technology to achieve greater visibility into its customers' assets, from initial deployment through the life of their business agreements. This will help EDS streamline and automate more processes, improve service-level agreements, reduce manual inventories, and increase service offerings to customers.

For more information about EDS and Intel vPro technology: Visit http://www.intel.com/vpro/ for all the details and additional resources

1 Intel® Active Management Technology requires the platform to have an Intel® AMT-enabled chipset, network hardware and software, connection with a power source and a network connection
2 For more information on why Intel® Core™2 Duo processors are the world's best overall processors, please visit www.intel.com/core2duo.

DON TENNANT

Slaves to What-Ifs

I'M NOT ENTIRELY CERTAIN, but I'm pretty sure that my obligation as an editorial writer is to express outrage and indignation over Dell's acknowledgement last week that the batteries in 4.1 million laptops it has sold can overheat and cause a fire. Call me misguided, but I'm more outraged and indignant over the fact that when I boarded my flight to Chicago last week to take part in a *Computerworld* IT Executive Summit, I had to toss my bottle of peach iced tea.

Maybe it's just that by nature I'm not much of a worrier, but it's awfully difficult for me to appreciate the alarm that generated 100,000 phone calls to Dell in one day after it announced that it was recalling the Sony-made batteries. I find it baffling that a Web site Dell set up for the recall got 23.4 million hits the same day.

Not that there isn't an upside to all of the angst, at least for some of us. A story about the recall that we posted on our Web site last Tuesday was the most-read story of the day, garnering three times as many page views as the second most-read story, and more hits than the second through eighth most-read stories combined. Since page views are our online bread and butter, I suppose I should be grateful that the news created such a stir.

But come on. Dell reported that there were six cases of the batteries causing fires in the past six months. Six out of 4.1 million.

Perhaps I'm irresponsible or naïve or both, but if I owned a Dell laptop with one of those batteries, those odds just wouldn't be high enough to compel me to mess with the recall.

We seem to live in a culture of alarmism. We're slaves to what-ifs. No, I wasn't really outraged that I couldn't take my peach iced tea aboard the plane. It's just that we need to guard against overreaction. We've somehow lost sight of the difference between prudence and overkill. When we allow ourselves to be so subjugated by fear that we don't permit hand cream or drinks purchased on the departure side of the security checkpoint to be taken onto planes, then the bad guys win. There needs to be more of a willingness to accept some minuscule degree of risk as the price we pay for getting on with our lives with some degree of normalcy.

What price did we pay in lost productivity for the time spent making those 100,000 calls and hitting that Web site 23.4 million times? How much of the real cost of the recall will Dell and Sony pass on to consumers?

And why? So far, the odds of an owner of one of those affected Dell laptops experiencing overheating and a fire is 6 in 4.1 million, or 1 in 683,000. *Computerworld* research associate Gussie Wilson found that those odds are roughly the same as the odds of matching four numbers plus the Megaball number in the Massachusetts state lottery (1 in 689,065), drawing a royal flush on the first hand (1 in 649,739) or being killed by a fireworks discharge (1 in 615,488). And you have a considerably higher chance of being struck by lightning (1 in 280,000).

Asking "What if?" is an essential element of our personal and professional lives. Chances are you're in a position that requires you to ask that question fairly regularly in order to do your job responsibly. But it needs to be asked free of the debilitating alarmism. So consider this a call for emancipation. ♦

Don Tennant

MICHAEL H. HUGOS

Lessons Learned From a Major Failure

I SOMETIMES LEARN more from failure than success. When I succeed, it just confirms what I already know — I'm a genius. When I fail, I have an opportunity to learn, if I can bring myself to take an objective look at what happened. This is hard, but then making the same mistakes over again is even harder. So failure can be a great opportunity to learn.

One of the greatest learning experiences in my career so far happened about 10 years ago.

I was a team leader on a systems development project that turned into a multimillion-dollar debacle. It drove home some lessons I hope I never forget. Here's what happened **(and what I learned from my experiences on that project).**

The project started out with great fanfare and high expectations. There were no clearly defined goals or performance objectives, but the system was basically supposed to empower the company's sales force to grow revenue by another billion dollars or so. **(Be wary of wild enthusiasm and vaguely stated goals. The bandwagon effect can make otherwise sane people do goofy things.)**

We spent six months investigating technology and dreaming up all sorts of ideas. Then we put together a slide show and a small demonstration of some of the technology. Senior management liked it and approved major funding into the project. **(Coming up with lots of ideas and getting lots of money commits you to meeting unrealistic expectations. You should manage expectations by**

focusing on only a few ideas and asking for less money.)

There were four teams. Three of them created design specifications, and the fourth team did programming and put together the hardware and software selected for the system. We were all supposed to work together, so there was no single person in charge of the entire project. **(Management by committee doesn't really work. Unless there is a single leader in charge of a project, confusion will reign.)**

As things progressed, design teams began to duplicate one another's work. Features were specified for one part of the system that overlapped with features another team was creating in its part of the system. Confusion grew; arguments ensued; feelings got hurt. **(Unless teams have clear and nonoverlapping objectives, they will get in one another's way. The project leader needs to resolve disputes quickly to keep things moving.)**

After six months of designing, there was increasing pressure to start programming. Even though the design was still incomplete, the design teams had produced hundreds of pages of specifications, and these were handed off to the programming team. That team was overwhelmed by the volume and complexity of the specifications. **(The longer you spend designing a system, the more complex and difficult it will be to build. It's best to design and build smaller pieces in quick, iterative steps.)**

To cope, the programmers changed the specifications and cut out features they didn't understand. Also, new releases of the system hardware and software kept coming out, so people kept reworking programs to take advantage of new features in the new releases. Almost a year was spent programming and reprogramming. **(System specifications have to be complete and easy to understand. People need to stick to them and not redesign the system while building it; new features can be added in future releases.)**

When the beta-test version of the system was finally unveiled, it ran very slowly and crashed constantly. **(After all the high expectations and almost two years spent designing and building the system, this performance seriously damaged the credibility of the whole project.)**

Programmers scrambled to fix bugs, but support for the system faded. Members of senior management became alarmed at the constantly increasing budget. After another six months, they canceled the project and wrote off millions of dollars. **(Delivering smaller subsystems every few months is better than trying to deliver the whole system in a few years. Smaller subsystems are easier to debug, and people see they are getting something for their money.)**

Since then, I've successfully delivered many new systems, and much of my success is due to the lessons learned from that failure. What lessons have you learned from your failures, and how have you applied them? ▸

WANT OUR OPINION?

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www.computerworld.com/columns

READERS' LETTERS

Answering AT&T on Ownership of Data

YOUR HEADLINE said, "AT&T to Customers: We Own Your Data" [*Computerworld.com*, June 22].

My response: "Ex-customers to AT&T. Not anymore."

Tom Cook
Analyst, Kernersville, N.C.

WHILE I agree with the points that Ira Winkler made in his opinion article "Sticking With AT&T? You're a Fool" [*Computerworld.com*, June 27], he either forgot (or doesn't care) that some of us have no choice but to use AT&T. So, while I have considered switching to another provider, there are really no practical alternatives. Instead of calling me a fool over and over (and alienating me), perhaps Ira could have offered practical suggestions for getting rid of AT&T.

Dave Sager
Union, Ill.

Catchy, but Can You Protect Data to It?

BARBARA GOMOLSKI'S "Sorry to Inform You, We've Lost Your Data" column on asset tracking and management [Management Opinion, June 26] was good.

Two things should really be emphasized: training and awareness. Companies need to drive home their policies on these matters on a consistent basis and make the consequences well known.

One idea would be to use slogans, like those from World War II – maybe "Get in a RUT (Remember Updates Today)" or "Loose Laptops Sink Customers." OK, so I didn't think that one out very well! But you get the idea.

Some slogans may sound silly, but that's exactly the point. We remember silly things like that, and they also remind us of the seriousness of our actions.

Martin Fischer
Thor, Iowa

Calling for Backup

THE STORY "Verizon Works to Recover Deleted 911 Calls in Mass." [*Computerworld.com*, June 22] was too focused on the mistake made by Verizon and its subcontractor, while ignoring the obvious question: If this data was so important to warrant these extraordinary data recovery efforts, why wasn't it being backed up by the State Police?

John Petry
Manager, IS, Mettler-Toledo Hi-Speed Inc., Ithaca, N.Y., john.petry@mt.com

Readers Not Neutral On Net Neutrality

THE PRIMER "Getting a Grip on Net Neutrality" [*Computerworld.com*, July 19] ends with this: "For the moment, though, the battle is still being fought in Congress, and all most people can do is sit and wait to see what the next generation of the Internet will look like."

Wrong. Americans can call, write or e-mail their representatives in Congress and voice their opinions. It is the sit-and-wait attitude that is letting our elected officials run away with our government.

Jeremiah Johnson
Menomonee Falls, Wis.

THERE IS a class of networks that regularly prioritize their message content ["Opinion: Internet Isolationism Is Bad for Business," *Computerworld.com*, June 26]. These are called "private" networks, and that prioritization is one of their distinguishing characteristics.

Any network that indulges in such practice forfeits its right to be called a public carrier. Current legal principles hold that a public vendor must treat all customers equally. Therefore, any attempt to legislate otherwise should not be enforced by any court.

Whether at a Memphis lunch counter or on a digital cable connection, equality is a firmly established doctrine.

Dan Sitler
Covington, Ohio

GroupWise Groupie

IN THE article "CEO Change Gives Novell New Hope" [News, June 26], an anonymous CTO says that Novell should drop GroupWise. I'm shocked this person is qualified to be a CTO. My company has been a GroupWise user for eight years. We are free from viruses and downtime, we integrate with schedules and handhelds, and the GroupWise WebAccess is included with the licensing. We are not limited. We are extremely satisfied with GroupWise.

Toby Fruth
Automation coordinator, Dallas

Is It Live, or Is It Memex?

THE RECENT summary of Vannevar Bush's memex [Geek's Garden, June 26] was a good one, but I think it gave a misleading impression with the phrase "electronically linked to a library." Geek's Garden missed the point that it was to be a personal library to act as a reliable addition to one's own memory.

Bush was wrong about the microfilm, but I don't think he was wrong about the desirability of a device to supplement our own personal memory as we advance through life. We really do not yet have a good, unified, easy-to-use, capacious tool for an expanded personal memory useful over a lifetime.

Richard Veith
Software development manager, Field Diagnostics Services Inc., Fairless Hills, Pa., rveith@gti.net

E-rigging the Vote

IN THE article "Concerns About Fraud Potential Continue to Plague Users of Electronic Voting Machines" [News, July 3], Carnegie Mellon professor Michael Shamos states that to rig a machine to throw an election, you would have to install Trojan horse software "that not only swaps votes but does so in a way that won't immediately be obvious from the demographics of the precinct and evades all tests to detect it before and after the election."

What, then, does Shamos make of the new phenomenon of a significant mismatch between whom voters say they cast ballots for, as recorded by exit polls, and whom the electronic machines say they voted for?

Consistently accurate exit polls suddenly veer away from recorded results when electronic voting machines do the recording. If Shamos was aware of this discrepancy, he should not have made that statement.

Frank Pinto
Davis, Calif.

COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Jamie Eckle, letters editor, Computerworld, PO Box 9171, 1 Speen Street, Framingham, Mass. 01701. Fax: (508) 879-4843. E-mail: letters@computerworld.com. Include an address and phone number for immediate verification.

TECHNOLOGY SPECIAL REPORT

08.21.06

Search Party
Developed by three friends, Splunk indexes data in real time, making it instantly searchable by keyword. PAGE 30

Electronic Auctioneer
Hewlett-Packard's Tycoon delegates IT resources by converging economic and computing principles. PAGE 34

Phish Fighter
Professors at Stanford University developed a plug-in that customizes a user's password for each site, putting a stop to Web spoofing. PAGE 37

ideas

HORIZON 2006

Some of the best technical minds in the country have dreamed up exciting technologies,

Altiris Inc.'s Altiris Software Virtualization Solution

On/Off Switch For Software

A new twist on provisioning reduces application conflicts — at a price fit for the mainstream.

By Stacy Collett

www.altiris.com

PRODUCT Altiris Software Virtualization Solution

KEY DEVELOPERS Randy Cook and Jared Blaser

IN A PERFECT WORLD, a computer would stay just as pristine and lightning-fast as the day it came out of the box. Performance wouldn't get bogged down by all the applications added and removed from its operating system over time.

Developer Randy Cook brings us closer to this performance utopia with the Altiris Software Virtualization Solution (SVS).

SVS reduces support costs and makes software operations more efficient through on-demand application provisioning. With its ability to switch applications on and off, making them virtually invisible, SVS eliminates application conflicts, makes instant repair of damaged applications possible and significantly reduces testing time for application rollouts.

With a combination of file-system filtering and multilayered, local caching of code and data, SVS intercepts application calls made to the Windows file system (including calls to the registry hive files) and redirects them to a private, hidden cache file. This redirection lets users install an application without modifying the PC's configuration. All changes that the installation program would make are isolated from the actual runtime environment.

Although the concept of application provisioning isn't new, "Altiris validated the technology [with SVS] and priced it at a point where it's set to become a mainstream

Continued on page 30

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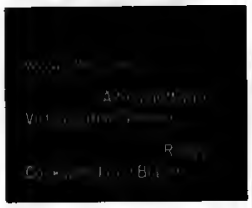

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Continued on page 30


IBM.
_INFRASTRUCTURE LOG
_DAY 12: No one can get real-time answers. No one can collaborate. Unmanaged public IM is a security nightmare.
_Gil brought in a "collaboratian accelerator." I said it looks like a cannon. He said I had a small mind.
_DAY 14: The answer: IBM Lotus® Sametime® 7.5. It's not just IM and Web conferencing, it's an affordable platform for running the business in real time. It's encrypted. Has tons of features like VoIP and location awareness. And it works seamlessly with leading public IM networks. Everyone has real-time answers now.
_We've even recovered most of our employees.
Download the Lotus Sametime 7.5 demo at:
IBM.COM/TAKEBACKCONTROL/SAMETIME

[illegible] SVS [illegible] Novell Inc. [illegible] Bloser, who ha[illegible] the knowl[illegible] to get his [illegible] found. Together [illegible] company at [illegible] and [illegible] SVS in [illegible]

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Altiris Inc. acquired the company in 2004. Bloser retired for the second time shortly thereafter. In March Altiris released SVS as a free download on its Web site. Thousands of users downloaded the software in the first three months, Cook says. For corporate users, SVS is priced at about $27 per node, compared with $100 to $125 per node for competing products.

In the first half of 2007, Altiris plans to add the ability to virtualize operating system patches. "If you find that the patch does cause a problem, it's just a matter of turning it off if you haven't made any changes to your baseline machines," explains Rich Bentley, Altiris' market segment manager.

In 2007, developers also plan to combine SVS with another product, called Protect, which virtualizes an entire user session. When the user logs off, anything that was added or deleted can be wiped away or restored the next time the user logs in. ●

Collett is a Computerworld contributing writer. Contact her at steollett@aol.com.

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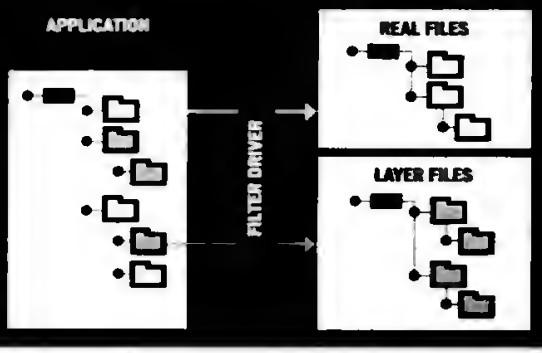

Splunk Inc.'s Splunk

Data Center Search Party

This tool indexes all types of data in real time, making the data instantly searchable by keyword. **By Drew Robb**

MANY DATA CENTER problems are easy to solve once you know what's going on. The hard part is finding them in the gigabytes of data dutifully logged on a millisecond basis by all the hardware, databases and applications. Manually combing through all the tiers of log data to track down a transaction or problem is slow and expensive. This is where Splunk comes in, a tool that uses search technology to speed problem resolution.

"Companies have had this fire hose of data thrown at them," says Dana Gardner, an analyst at Interarbor Solutions LLC in Gilford, N.H. "Splunk whittles down this stream so they can exploit the data."

San Francisco-based Splunk Inc. was founded in 2003 by three friends – Michael Baum, Erik Swan and Rob Das – who were running large-scale infrastructures dealing with search technology. CEO Michael Baum, for example, was running Yahoo Inc.'s e-commerce applications on more than 12,000 servers. As they discussed their jobs, they found that they were spending a

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www.splunk.com

PRODUCT Splunk

DEVELOPERS Michael Baum, Erik Swan, Rob Das, Rory Greene, Brian Murphy, David Carasso, Stephen Sorkin, Brad Hall, Andre Stechert, Amitpal Bath, Ivan Tam, Will Hayes, Kim Wallace, Jet Bekes, Nick Mealy, Johnvey Hwang, Ben Strawbridge and Ben Scharp

BioPassword Inc.'s BioPassword Internet Edition

Keystroke Analyzer

Biometric software mans network security checkpoints to turn away imposters. **By Drew Robb**

INFORMATION security has adopted a number of procedures from the military. One of the latest is using keystroke rhythm as a method of identifying users.

"We see that passwords are increasingly at risk because of known vulnerabilities and new cybercrime threats," says Ant Allan, a U.K.-based Gartner Inc. infosecurity and privacy analyst. "More organizations are looking at stronger authentication methods."

One approach is to move to biometric technologies, such as fingerprint scanners, voice-recognition systems and retina scanners, which physically identify the person logging on.

PRODUCT BioPassword

DEVELOPMENT TEAM Artur Babayan, Brian O'Neill, Bobby Bhasin, Chaz Spahn, Danny DeSousa, Jagadeesan Baskar, Jared Pfost, John Stacy, Jonathan (Hong) Wang, Kulwinder Deol, Lensey Hau, Mark Gamache, Mechthild Kellas-Dicks, Mike Stewart, Seshadri Mani and Steve Commnos

The limitation of most biometric technologies is that they require the purchase of an additional piece of hardware. In addition to the cost of these devices, the setup restricts a person's ability to use any computer that doesn't have the required piece of biometric hardware installed.

To get around this problem, BioPassword Inc. in Issaquah, Wash., takes a software approach to biometrics using keystroke dynamics — an analysis of how long a person holds down each key and how long it takes to move from one key to another.

This method is derived from military applications. As recently as World War II, the military used Morse code for communications. Since Morse was a well-known public standard, the problem was how to verify who was actually sending the message.

"Using a methodology called 'the fist of the sender,' military intelligence identified that an individual had a unique way of keying in a message's dots and dashes, creating a rhythm that could help distinguish ally from enemy," says Greg Wood, BioPassword's chief technology officer.

Later, organizations started looking into applying this methodology to computer security. In the early 1980s, the U.S. National Bureau of Standards funded research by the Stanford Research Insti-

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technology," says Mike Silver, an analyst at Gartner Inc.

Application provisioning has universal benefits. "A 10,000-user company could have 1,000 applications. Figuring out what the interaction is between those applications . . . is difficult, if not nearly impossible," Silver says. "So allowing applications to run in their own virtual space reduces the amount of cross-application testing . . . and lets you better manage your desktops."

Cook hatched the idea for SVS back in 1998. "I was trying to think about how we could uninstall software 100% all the time," says the SVS architect. He sought the help of a former Novell Inc. colleague, Jared Blaser, who he knew would have the knowledge and contacts to get his idea off the ground. Together they formed a company in 2002 and, with private funding, began developing SVS in Cook's basement.

They toiled for two years. "The hardest part was probably doing the registry virtualization, because there is no documentation on the registry at that level," Cook says. One of his first "eureka" moments was while trying to virtualize Adobe Acrobat Reader and Quicken applications. "The first time we saw icons blinking on and blinking off, we knew we had something going," says Cook.

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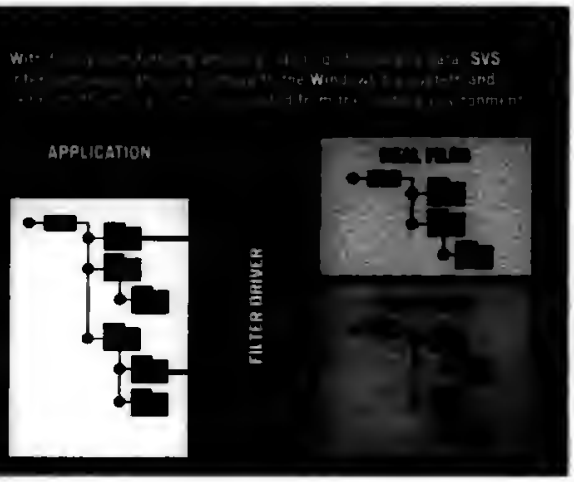

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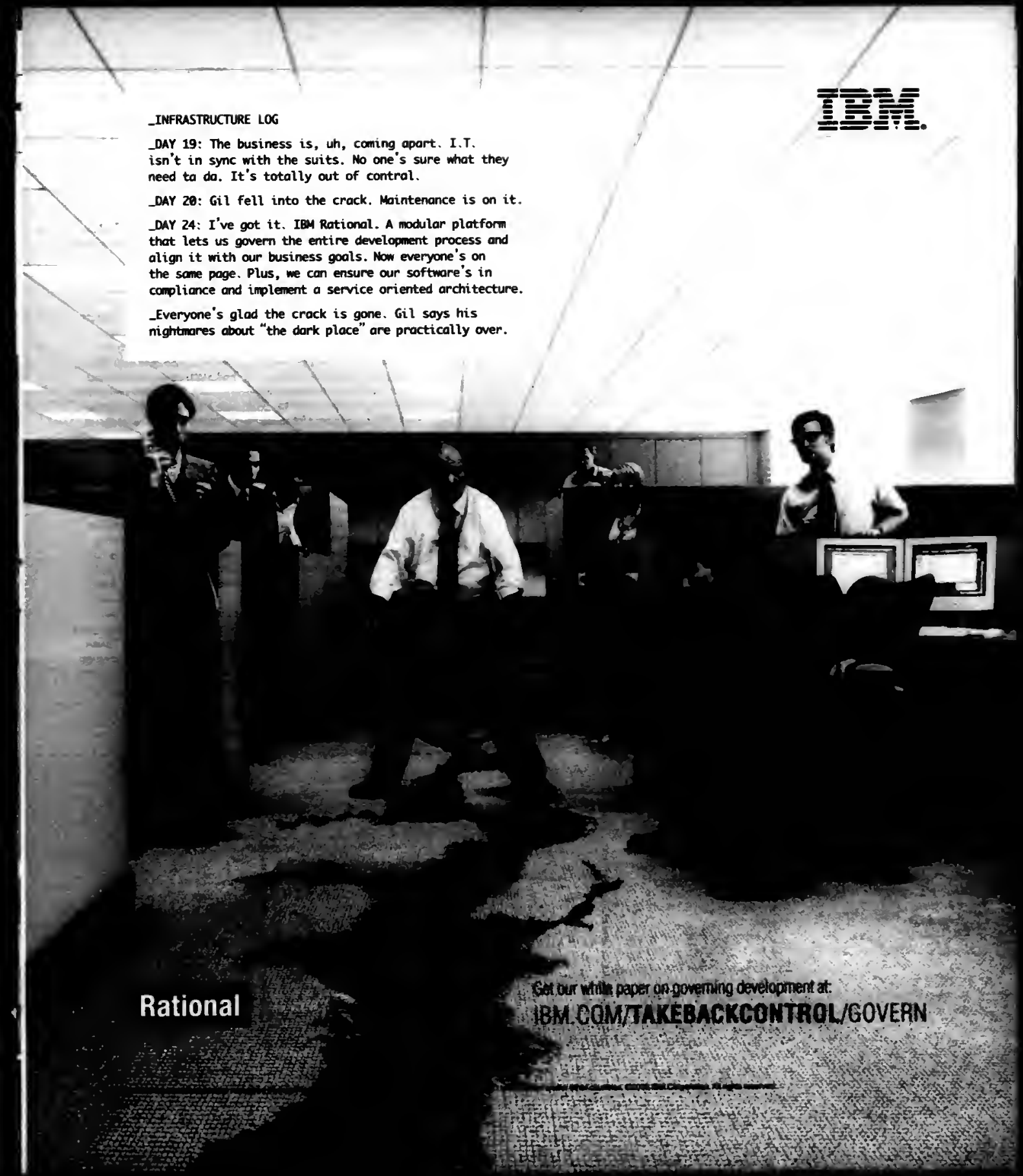
_INFRASTRUCTURE LOG
_DAY 19: The business is, uh, coming apart. I.T. isn't in sync with the suits. No one's sure what they need ta do. It's totally out of contral.
_DAY 20: Gil fell into the crack. Maintenance is on it.
_DAY 24: I've got it. IBM Rational. A modular platform that lets us govern the entire development process and align it with our business goals. Now everyone's on the same page. Plus, we can ensure our software's in compliance and implement a service oriented architecture.
_Everyone's glad the crack is gone. Gil says his nightmares about "the dark place" are practically over.
IBM.
Rational
Get our white paper on governing development at:
IBM.COM/TAKEBACKCONTROL/GOVERN

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lot of time and resources weeding through log file data with primitive tools. That kicked off a process that eventually led to Splunk.

Initially, they planned to add something to the hardware or application layers that would help system components talk to one another. This, however, would add to the system overhead, so they decided a better approach was to use search technology to give administrators easy access to the data that was already available.

"That's when it really got hard," says Baum. Although the developers had built search technology for companies like Yahoo and Infoseek, Web pages were a lot easier to index than the wide variety of data formats used for data logs.

Then there was the matter of establishing links between the different types of unstructured data. In Web search, the hyperlinks already existed, but not in the data center. So Splunk had to be able to not only access and index all the data in real time, but also establish relevant connections.

"It took us quite a bit longer to develop the technology than we anticipated," Baum says.

Another challenge was to have the index updated in real time. After two years of development, a beta version was released. Further refinement based on user feedback led to Splunk's 1.0 release in December 2005.

Splunk indexes events by time, terms and relationships, and discovers relationships between different kinds of events. Rather than having to go in and look at individual log files, administrators can go into the Web interface and perform a keyword search to find the relevant information in any log file.

They can also search by time or browse event relationships. The index is constantly updated so that an event will show up in a search within seconds of occurring.

Jasmine Noel, an analyst at Ptak, Noel & Associates in New York, says companies with large, complex infrastructures will get the most benefit from using Splunk.

"Today, Splunk's sweet spot is knowledgeable IT experts who have a good idea of what they are looking for but are having difficulty finding it in the haystack of error logs and application dumps from a myriad of different servers," she says.

Like Google, "it automatically indexes everything, but its true power is unleashed when an experienced searcher is looking for something specific," says Noel.

Splunk is available either as a free download, called Splunk Server, or on an annual subscription basis for the full-featured Splunk Professional edition. Pricing ranges from $2,500 for a daily data volume of 500MB to $10,000 for 10GB. ▸

Robb is a Computerworld contributing writer.

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tute (now SRI International) into this area. SRI concluded that analyzing the keystroke dynamics used when entering a user ID and password was 98% accurate, and an initial patent was issued in 1989.

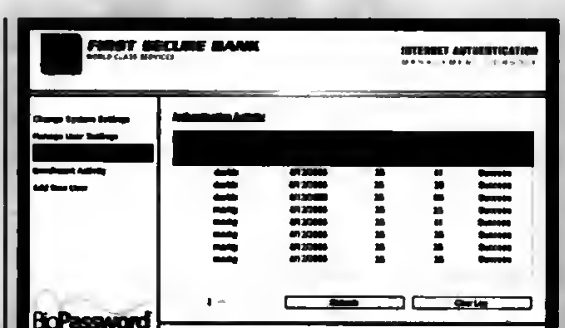
BioPassword purchased the patents in 2002, then further developed the technology and commercialized it.

In 2004, the company released its first product for the workgroup market, and this year, it released products for Internet and enterprise network security systems. The software currently runs on Windows, but BioPassword is looking to extend it to the Unix/Linux environment.

"Probably the single biggest hurdle was to determine the best implementation of the client component in Internet implementations," says Wood. "ActiveX controls are generally frowned on by users, but we needed a reliable, highly distributed technology that could easily be integrated into the user browser."

To overcome that challenge, the product was designed as a Flash plug-in that requires no user installation.

The big advantage BioPassword has over other types of authentication is that it is purely software based. That makes it an appealing option in situations where installing biometric readers isn't practical.



For example, a bank could use a keystroke analyzer to identify customers before allowing them to transfer funds. Even if someone managed to steal a password, that person still wouldn't have the same typing rhythm as the customer.

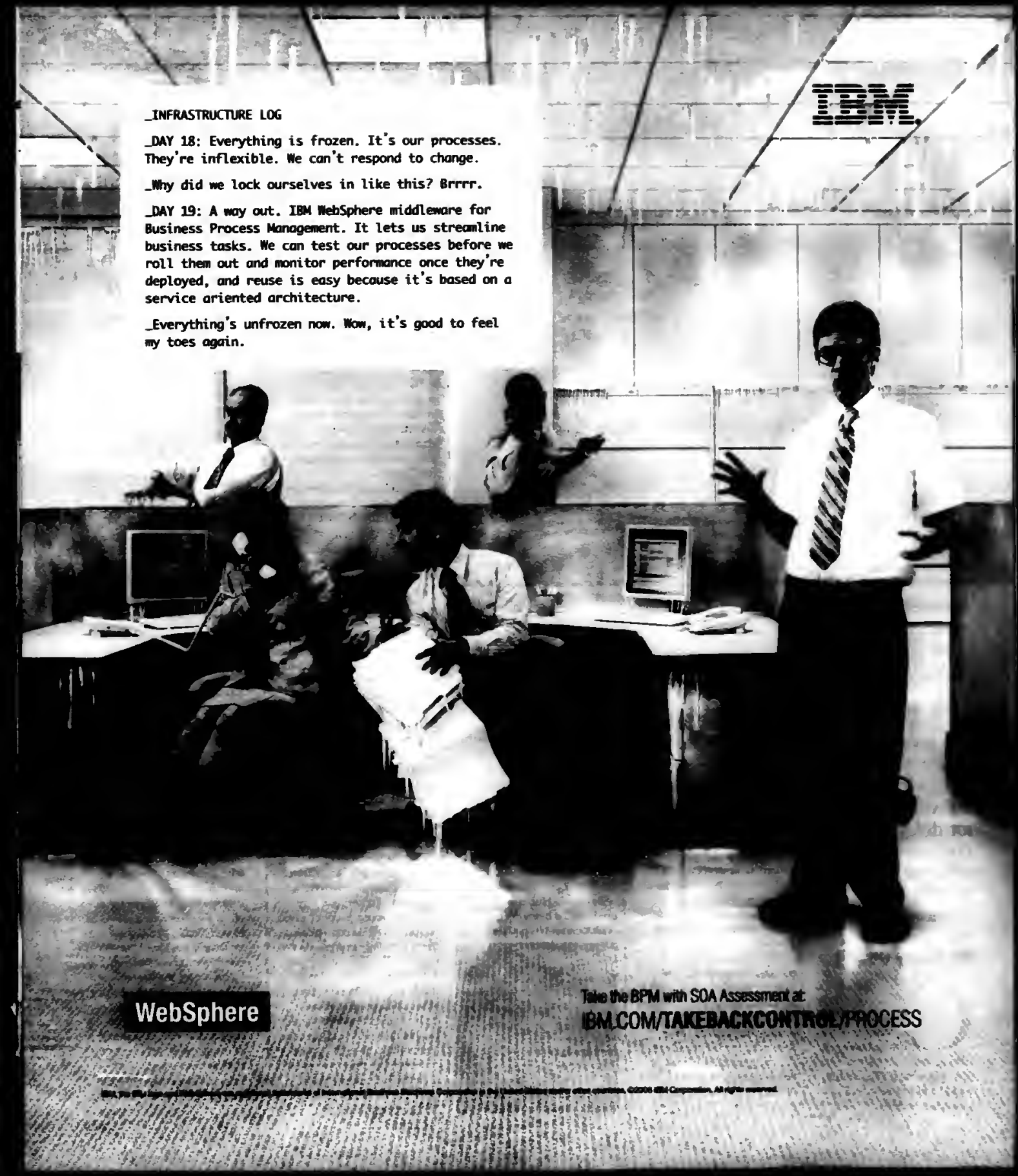
Sally Hudson, an identity and access management analyst at IDC in Framingham, Mass., says BioPassword fills "the growing need for multifactor, strong authentication in both enterprise and Internet environments."

She says early adopters will come from banking, health care, e-commerce, government, education and technology sectors, with general enterprise use coming later.

Gartner's Allan says it's too early to tell if the technology will catch on in a big way but adds that it has a good chance.

"It's interesting," he says, "because this is one of the few biometric technologies for user authentication that we see clients enthuse about." ▸

Robb is a Computerworld contributing writer.


IBM
_INFRASTRUCTURE LOG
_DAY 18: Everything is frozen. It's our processes. They're inflexible. We can't respond to change.
_Why did we lock ourselves in like this? Brrrr.
_DAY 19: A way out. IBM WebSphere middleware for Business Process Management. It lets us streamline business tasks. We can test our processes before we roll them out and monitor performance once they're deployed, and reuse is easy because it's based on a service oriented architecture.
_Everything's unfrozen now. Wow, it's good to feel my toes again.
WebSphere
Take the BPM with SOA Assessment at:
IBM.COM/TAKEBACKCONTROL/PROCESS

BERNARDO HUBERMAN (right) and his HP research team members, KEVIN LAI (left) and THOMAS SANDHOLM

Hewlett-Packard Co.'s Tycoon

Electronic Auctioneer

This virtualized software system for delegating computer resources combines principles of economics and technology.

By Stacy Collett

CIOs are constantly challenged to stretch IT resources on limited budgets, leaving few assets for innovation. But what if IT systems could be allocated based on actual use and need?

That's the idea behind Hewlett-Packard Co.'s Tycoon, a virtualized, market-based system for delegating computer resources. Tycoon pulls a company's IT resources into an abstract utility layer. Users can bid or barter for computer resources within their own companies or with other companies in a broader market.

Within a company, employees are given a certain number of tokens per year to spend on computing resources. The more urgent a user deems the need, the more tokens he can bid for use of the equipment. In a broader market, resources could be offered online to the highest cash bidder.

While the concept of shared resources isn't new, HP's convergence of the principles of two disciplines, economics and technology, to develop Tycoon is.

"Part of the reason why it has taken so long for it to get off the ground is that economists lack the expertise to [build a system] . . . and computer scientists lack the understanding of incentives and organizational structure to make a system that can do these kinds of things," explains Kevin Lai, a scientist at HP's Information Dynamics Lab in Palo Alto, Calif., and a key developer on the project.

Bernardo Huberman is credited for bringing the eclectic group together back in 2004. "You need [economists] interested in solving concrete and real problems," explains Huberman, senior HP fellow and director of the Information Dynamics Lab. "Also, you need people from computer science with enough vision that they want to do something different."

But it was Lai who mediated between economists and computer scientists and even intrigued visiting scientists who heard the buzz about Tycoon and wanted to offer their input.

For example, Lars Rasmusson, now at the Swedish Institute of Computer Science, and HP research scientist Li Zhang heard about the project and contributed algorithms for Tycoon.

The relationship between the two disciplines wasn't always harmonious. Lai found that many economic theories didn't apply in practice. "Previous work from economists didn't take into account the realities of computer systems," he says. "I like the fact that they fail, there is latency, and that users put a high value to having low latency to do these jobs quickly. We had to take into account this reality and overcome it."

HP has been testing Tycoon since November 2004 at its Singapore offices and in several European locations. This summer, the lab began a pilot project with a Scandinavian company. Engineers will use Tycoon to bid on access to high-powered computers needed for simulations.

Tycoon is still in its research phase but is available as a free download on HP's Web site. Marketing a commercial Tycoon product won't happen any time soon because the technology represents a major shift in business process, Huberman says. But in the future, businesses that otherwise couldn't afford high-powered computing may be able to access leading-edge technology through Tycoon. ▶

http://tycoon.hpl.hp.com

PRODUCT Tycoon

DEVELOPERS Bernardo Huberman, Kevin Lai and economists and computer scientists at HP's Information Dynamics Lab

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IBM Almaden Research Center's Business Insights Workbench

Smarter Search

Next-generation tool adds analytics and insight to its search of structured and unstructured data.

By Gary Anthes

www.almaden.ibm.com

PRODUCT Business Insights Workbench

KEY DEVELOPER Jeffrey Kreulen

EIGHT YEARS AGO, there were plenty of tools to search and analyze structured data, and even a few to go after unstructured information such as free-form text. But the two kinds of tools were not integrated, according to Jeffrey Kreulen, senior manager of service-oriented technologies at IBM's Almaden Research Center in San Jose. And the most sophisticated analytic tools used esoteric mathematical techniques that pretty much kept them out of the hands of nontechnical users.

The IBM lab is now into the third generation of tools to address those limitations. In 1998, it developed a prototype called eClassifier, basically a collection of algorithms for mining call center data. It was used internally at IBM to answer questions such as, "What are my top 10 problems?"

The idea, says Kreulen by way of example, was that if 10% of all calls dealt with password-reset issues, 10% of calls might be eliminated by automating the password-reset task.

But eClassifier was limited in both usefulness and usability, and

Continued on page 36

BERNARDO H. BERMAN [rest illegible] HP [illegible] team members KEVIN LAI (left) and THOMAS SANDHOLM

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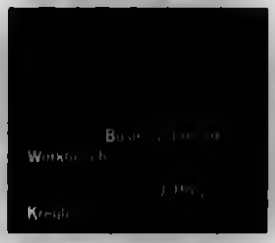

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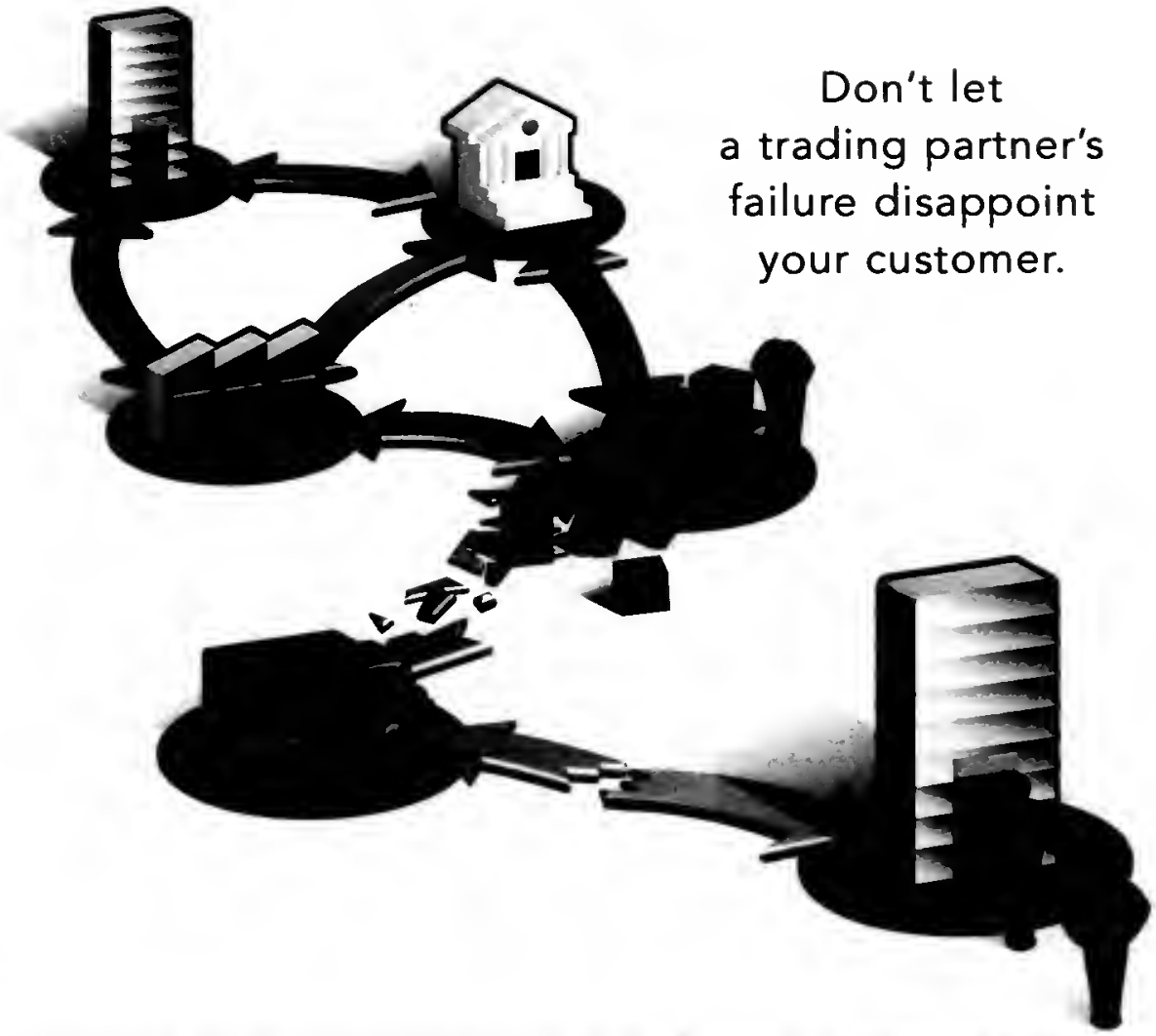

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Continued from page 34

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But BIKM was primarily about search and retrieval. "The next phase is what BIW is about," Kreulen says of the Horizon-award-winning Business Insights Workbench. "It's about how to do analytics on top of that; how to create actionable insights for your business that search just can't do."

These insights are enabled by human expertise built into BIW in the form of taxonomies – natural classifications of data that emerge from clustering algorithms. A user might start with his own taxonomies, such as what he believes are the top 10 reasons for customer calls, but then BIW can refine and improve those by a process called machine learning. More powerful machine learning techniques are a focus of research today at Almaden, Kreulen says.

The other major improvement in this third-generation tool is that it is more accessible to lay users, Kreulen says. "We are striving for a broader audience; we don't want our users to have to be Ph.Ds," he says.

"A great deal of information is lost because it is buried in unstructured data that is difficult to mine," says Joe Drouin, CIO at TRW Automotive Holdings Corp. in Livonia, Mich., and one of this year's Horizon judges. "Finding those critical nuggets of information and presenting them in a way to enable better decision-making is a daunting task.

"IBM's concept for pulling this all together and offering a set of integrated tools, on top of a framework for aggregating and consolidating structured and unstructured data from a wide variety of sources, holds a great deal of promise," Drouin adds.

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A more futuristic application of BIW would be to mine and analyze e-mail messages, either those of employees or customers, in support of risk assessment and compliance functions, Kreulen says. ▸

Business Insights Workbench combines the search and retrieval capabilities of typical business intelligence and knowledge management tools with analytics, powered by human expertise and "machine learning."

University of Maryland's Oasys

Opinion Thermometer

Complex algorithms find and measure the intensity of opinions in news sites around the world.

By Gary Anthes

OASYS, the Opinion Analysis System, owes its origins to a conversation two years ago between V.S. Subrahmanian of the University of Maryland and analysts at the U.S. Department of Defense. The analysts were looking for a way to measure and track worldwide opinion on matters related to national security.

"After the Abu Ghraib scandal broke, there was interest in how devastating the reports were in different countries: Is it worse in Saudi Arabia than in Bahrain? How does it change over time? and so on," Subrahmanian recalls.

He says he realized that little research had been done in that area, and he saw both commercial and defense uses for a tool that could dynamically measure the tide of global opinion on some topic specified by the user.

So Subrahmanian, a computer science professor and director of the Institute for Advanced Computer Studies at the university, teamed with like-minded colleagues at the University of Naples in Italy to develop algorithms and build a prototype that could find and measure the strength of opinions in news feeds. He said the technology, which has cost about $200,000 so far, will soon be handed over to the university's technology licensing office for commercialization.

Oasys includes a background crawler that in the prototype version watches 18 news sites in four countries and three languages. It monitors news feeds and extracts information about topics on which opinions are expressed in the news story.

Oasys scans the feeds for words in its dictionary of adjectives, which are coded as positive or negative. The adjectives are also weighted so that, for example, "fabulous" is seen as more positive than "good." Adverbs were recently added, and they're also weighted so that "bad" can be distinguished from, say, "very bad."

A user can enter a topic of interest, such as "Abu Ghraib," and see color-coded graphs illustrating the intensity of opinion over some specified time period, by language or country.

A key difficulty has been coming up with a reliable way to score the various words in opinions, since opinions are expressed in such idiosyncratic ways, Subrahmanian says. The Oasys development team has calibrated the algorithms against human panels where the goal is for Oasys to score opinions at about the median of what human subjects do.

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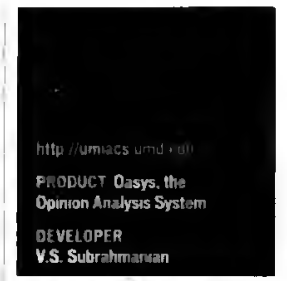
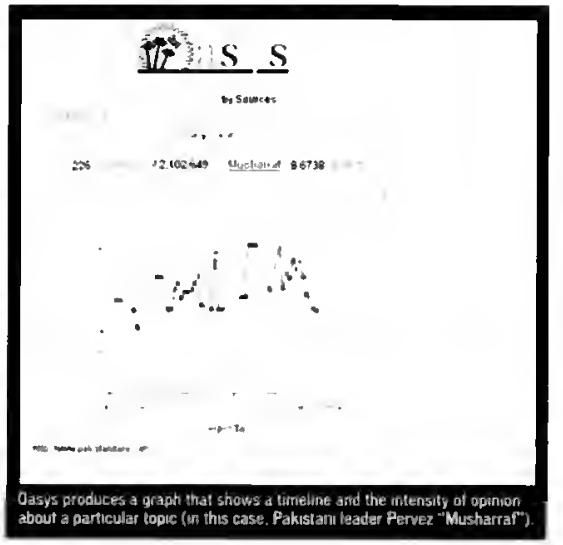


companies will want to use the technology to track the opinions of customers and critics on Web sites and blogs. That could help them more effectively target advertising, he says.

"More and more, companies realize that a lot of the information they need to fully understand the dynamics of decision-making resides in unstructured data," says John Hagerty, an analyst at AMR Research Inc. in Boston. "Because of the vast array of data outside the firm, technologies to assess attitudes, resistance, willingness to buy and so on will further enrich the decision support process, giving policy-makers and marketers the tools to help shape debate and demand." ▸



Oasys produces a graph that shows a timeline and the intensity of opinion about a particular topic (in this case, Pakistani leader Pervez "Musharraf").

Stanford University professors DAN BONEH (left) and JOHN MITCHELL, developers of Password Hash

Stanford University's Password Hash

Phish Fighter

A browser plug-in helps customize a user's password for each site, putting a stop to Web spoofing. By Stacy Collett

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But some professors and students at Stanford University are taking a big bite out of this crime with Password Hash (PwdHash), a plug-in for popular Web browsers that prevents phishing sites from getting what they want.

"Internet users often use the same password at many Web sites," says Dan Boneh, an associate professor of computer science and electrical engineering at Stanford. "A phishing attack on one site will expose their passwords at many other sites."

By simply adding "@@" to the beginning of a password when registering on a Web site, PwdHash combines the user's password with the site's domain name in an algorithm that customizes a password for the user.

If a password is stolen from a malicious site, it won't work on the authentic site "although you typed in the same password," explains professor John Mitchell, who also led the team.

Although the idea of adding a cryptographic hash function to a password isn't new, Mitchell and his team have advanced the technology by making it easy enough for end users to apply. But the project wasn't always their top priority.

Three years ago, Secret Service agents visited Stanford's engineering and computer science department to seek help in combating financial crimes. "I asked them, 'If we were to solve one problem for you, what would it be?' " Their answer: Web spoofing, now known as phishing.

Mitchell's team chose to attack the problem from the end user's point of view rather than try to persuade financial institutions to redesign their Web servers.

By the summer of 2003, they created SpoofGuard, software that detects fraudulent Web sites. In the process, developers hit on the idea of also modifying the passwords sent out from the user. And so PwdHash was born as a stand-alone piece.

The most difficult part was making PwdHash look easy. Some of the trickiest fake Web pages simply show an image or picture to indicate where to type a password instead of having "enter your password" written in text. "How would our software inside the browser know that the Web page is asking for their password? We had to know which data to apply this cryptographic hash to and which data to leave alone," Mitchell recalls.

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Today, the software is available for free, with versions for the Internet Explorer and Firefox browsers. Mitchell is trying to persuade major browser vendors to include PwdHash in upcoming releases.

"This type of technology definitely has legs," says David Jevans, chairman of the Anti-Phishing Working Group. "In the U.S., a lot of [Internet security work] is happening on the back end. But that's not going to be enough. The bad guys are always evolving." ▸

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http://crypto.stanford.edu

PRODUCT PwdHash (Password Hash)

DEVELOPERS Stanford University professor John Mitchell, associate professor Dan Boneh and students Blake Ross, Collin Jackson and Nick Miyake

VMware Inc.'s VMware ESX

Server Shifter

This resource manager helps balance the workload of virtual data centers — without administrators. By Drew Robb

VIRTUALIZATION lets companies more efficiently use their data center hardware. But just as important is better utilization of the human resources that manage those data centers.

To lighten the load, VMware Inc. in Palo Alto, Calif., released its Distributed Resource Scheduler last October as part of its VirtualCenter 3 management software. DRS automatically balances the workload among pools of virtual servers, allowing servers to operate at 80% or greater utilization.

Once policies are established, DRS manages performance, automatically provisions virtual servers, balances loads and activates fail-over without administrator action. Developers spent about three years testing and refining DRS.

"The more that companies use virtualization in production, the more that DRS will be used, or at least looked at, to manage resource allocation of virtual machines," says Stephen Elliot, an analyst at IDC.

Initially, VMware focused on creating a tool that would

www.vmware.com

PRODUCT Distributed Resource Scheduler

DEVELOPERS The VMware research and development team

Continued from page 34

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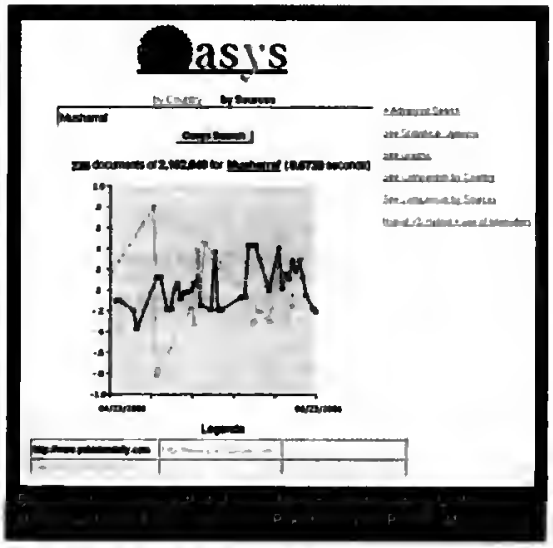

Stanford University graduate students DAN BONEH (left) and JOHN MITCHELL, developers of Password Hash

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This resource manager helps balance the workload of virtual data centers — without administrators. **By Drew Robb**

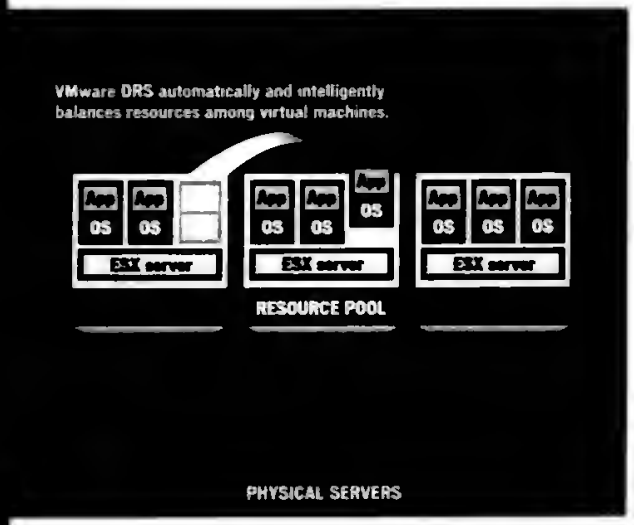
VIRTUALIZATION lets companies more efficiently use their data center hardware. But just as important is better utilization of the human resources that manage those data centers.

To lighten the load, VMware Inc. in Palo Alto, Calif., released its Distributed Resource Scheduler last October as part of its VirtualCenter 3 management software. DRS automatically balances the workload among pools of virtual servers, allowing servers to operate at 80% or greater utilization.

Once policies are established, DRS manages performance, automatically provisions virtual servers, balances loads and activates fail-over without administrator action. Developers spent about three years testing and refining DRS.

"The more that companies use virtualization in production, the more that DRS will be used, or at least looked at, to manage resource allocation of virtual machines," says Stephen Elliot, an analyst at IDC.

Initially, VMware focused on creating a tool that would



Continued from page 37

allow resources to be dynamically shared across multiple virtual machines on a single physical server, with the eventual goal of managing the entire virtual infrastructure.

"The vision was always to create a highly distributed resource management system where, instead of pegging workloads to specific machines, you could set up a global resource policy for each workload, and the system would enforce that policy across a group of physical machines," says Karthik Rau, VMware's senior director of infrastructure products and solutions.

The first challenge was to develop a tool that could shift workloads among physical servers on the fly.

"When we released VirtualCenter with VMotion, we added one of the key missing pieces to complete the vision: the ability to nondisruptively move workloads between physical machines," Rau says. "With these added capabilities, the team focused on building a true distributed resource manager for the VMware virtual infrastructure, and that turned into VMware DRS."

One hurdle that needed to be cleared was establishing the right algorithms so that resources weren't being consumed moving virtual machines around when it wasn't really necessary, a scenario that would worsen rather than improve performance. The user interface also went through several versions. The product bounced back and forth through a process of design, internal testing and beta testing by 6,000 customers before it was finally ready for a production release.

Using DRS, a manager can group all of the physical servers into a single resource pool and establish policies extending across all of them.

For example, a company's finance department might be allocated a 20% share of the resource pool. If the company has 10 servers running under DRS, the finance department would get the equivalent of two physical servers, though the work would actually be performed by virtual machines running on any of the 10 physical servers.

If a physical server was brought down for maintenance or a new box was added to the server pool, DRS would expand or contract the department's resources accordingly to keep it at 20% of the current resource pool. Or, if a department was releasing a new product, it could be assigned a higher percentage of the server resources during the release period.

A final version of DRS came out in June as part of VMware Infrastructure 3 Enterprise Edition. It can also be purchased at a list price of $2,000 on a price-per-server basis. ▸

Robb is a Computerworld *contributing writer.*

SAP AG and Microsoft Corp.'s Duet

Glue for SAP And Office

Jointly developed software provides the link between two applications, right off the shelf.

By Drew Robb

COMPANIES spend billions of dollars creating enterprise portals and integrating applications. With Duet for Microsoft Office and SAP software, some of that customization is no longer needed. Duet lets users access SAP applications from within an Office environment.

"It provides off-the-shelf integration between productivity office suite tools and CRM and ERP enterprise applications, which obviates the need for custom integration by IT," says Mark Levitt, an analyst at IDC.

Formerly called Mendocino, Duet is a collaboration between Microsoft Corp. and SAP AG. According to Dennis Moore, executive vice president and general manager of emerging solutions at SAP, customers of both companies had been requesting better interoperability between the vendors' product lines.

"Customers wanted the ease and familiarity of their Office environment and yet wanted the ability to access and use the robust, secure business processes from the SAP back-end systems," says Moore. "As Web services and SOA became integrated features of both companies' product lines, the feasibility of providing contextual business information from SAP within Office 2003 increased, and the idea of Duet was born."

Development began in 2003, with teams in five locations and a full complement of architects, software developers, quality assurance and test engineers, implementation consultants, technical writers and product managers.

The developers started by brainstorming ways to integrate Office and SAP. Customers were then contacted to validate the concepts and find areas for improvement.

Microsoft and SAP then set out separately to develop their contributions to the whole, but a significant amount of coordination via written communication and virtual and in-person meetings was required throughout the process.

The product was initially released to 100 partners and key customers, with broad release scheduled for this summer.

The first version includes four key business scenarios. For example, employees can record their hours in their Outlook calendar. The Outlook calendar entry then triggers an approval action in the SAP time management tool so the employee doesn't have to separately input the data in both locations.

Similarly, people can request time off using Outlook's meeting request feature, and the approval is processed based on the business rules set up in SAP. The Outlook mailbox is also linked to the SAP budget management process.

Two releases due out later this year will provide business scenarios in ERP, CRM, supplier relationship management and business intelligence software from SAP.

Levitt says Duet will help companies give employees who primarily use office productivity software an easier way to access SAP ERP or CRM software but adds that the product wouldn't entice a company to adopt SAP applications.

"Companies without SAP ERP or CRM would not likely be inclined to buy those SAP applications just to use Duet," says Levitt. ▸

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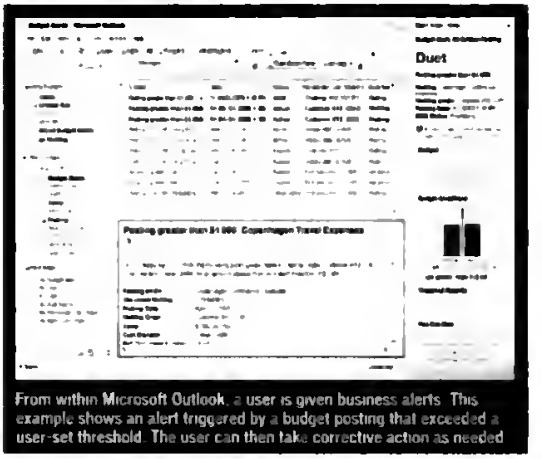
PRODUCT Duet

KEY DEVELOPERS Dennis Moore, Udo Waibel and Nir Kol



From within Microsoft Outlook, a user is given business alerts. This example shows an alert triggered by a budget posting that exceeded a user-set threshold. The user can then take corrective action as needed.

Continued from page 37

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Gigabit to the edge

The attainable source of power and performance

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HyperOffice's HyperOffice

Collaboration in a Box

This hosted office environment gives users collaboration software, without the back-office support costs.

By Drew Robb

In IT, ideas never truly die. They tend to come back, but in a new form. Take, for example, Rockville, Md.-based HyperOffice, which began as a part of the services offered by WebOS, a dot-com that dissolved in 2001. But it wasn't dead yet. The next year, several investors, including Drew Morris, the initial architect and primary developer of HyperOffice at WebOS, resurrected the concept as its own company. The difference is that WebOS targeted individual users, while HyperOffice targets businesses of up to 500 employees.

HyperOffice provides users with a hosted office environment, including e-mail, document management, calendar, project management and collaboration tools, at a cost of around $7 per user per month.

End users still have their own desktop applications, the company doesn't have to purchase and support a server and collaboration software. It can be customized to incorporate links to other software.

"In the second inception of HyperOffice, the product was refined to allow corporate users to provide all the necessary collaboration and communication technologies they need for multiple types of stakeholders, including employees, customers, contractors and partners," says Morris, HyperOffice's chief technology officer.

"This is a good example of a rapidly growing area of technology, software as a service, which allows anyone to have the use of sophisticated software without the need to provide their own IT staff," says Amy D. Wohl, president of Wohl Associates, an office automation consultancy in Merion Station, Pa. "It doesn't mean we won't have IT; it means IT can focus on high-priority projects and leave commodity applications like e-mail to an outsourced service."

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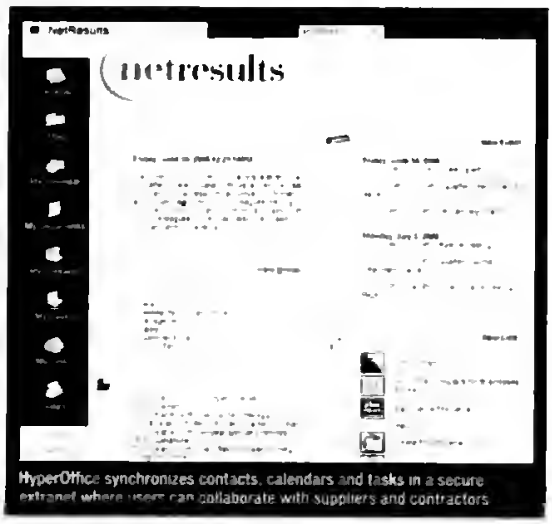

HyperOffice synchronizes contacts, calendars and tasks in a secure extranet where users can collaborate with suppliers and contractors.

How They Were Chosen

COMPUTERWORLD HORIZON AWARDS

THE COMPUTERWORLD HORIZON AWARDS were established in 2005 to make readers aware of cutting-edge technologies from research labs and companies that are looming on the horizon.

Beginning this past May, *Computerworld* accepted nominations online for innovative technologies that meet the needs of enterprise IT. We received more than 200 nominations. Eligible organizations were required to have a technology that meets one of the following criteria:

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- Manages burgeoning needs for information storage and disaster recovery in today's regulated world.
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- **Leonard Kleinrock**, professor, University of California, Los Angeles
- **Craig Mathias**, principal, Farpoint Group
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This panel of IT executives helped evaluate dozens of technologies:

- **Yuri Aguiar**, senior partner, chief technology officer, Ogilvy & Mather Worldwide
- **Cara A. Babachicos**, CIO/corporate director, Partners Continuing Care, Partners Healthcare System Inc.
- **Phil Bloodworth**, U.S. leader, IT effectiveness practice, PricewaterhouseCoopers
- **Kathy J. Claypatch**, director of IT hosting operations, University of Phoenix, Apollo Group Inc.
- **Joe Drouin**, vice president, CIO, TRW Automotive Holdings Corp.
- **Tony Fuller**, vice president of IT, chief technology officer, Rent-a-Center Inc.
- **Don Gould**, director of IT, Godiva Chocolatier Inc.
- **Gerhard Karba**, vice president, technology and CIO, Hines Interests LP
- **Raymond Karrenbauer**, group chief architect, ING Groep NV
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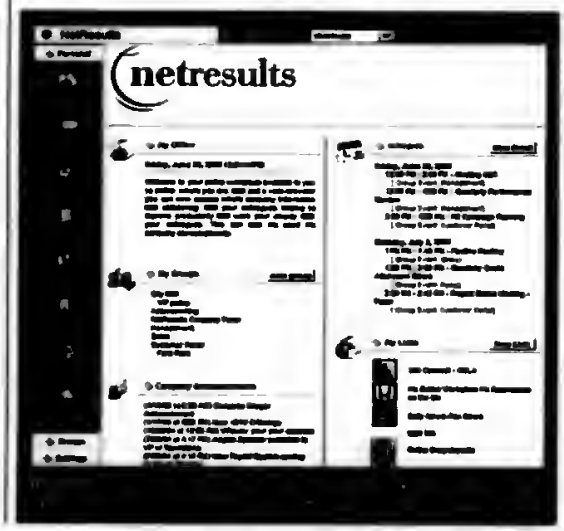

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Give your employees the tool to keep them connected even when they're out of the office. Give them Cingular's real-time wireless email and watch productivity skyrocket. Give them now.

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MANAGEMENT

08.21.06

IT MENTOR

The Million-Dollar Backup Tape

How much are your backup tapes really worth? IT mentor Bill Lipner tells what's at stake and what you need to do about it. **PAGE 47**

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Tie Your IT Budget to Business Strategy

The key to IT budgeting, says Barbara Gomolski, is setting IT investment levels that align with your company's overall business strategy. **PAGE 48**

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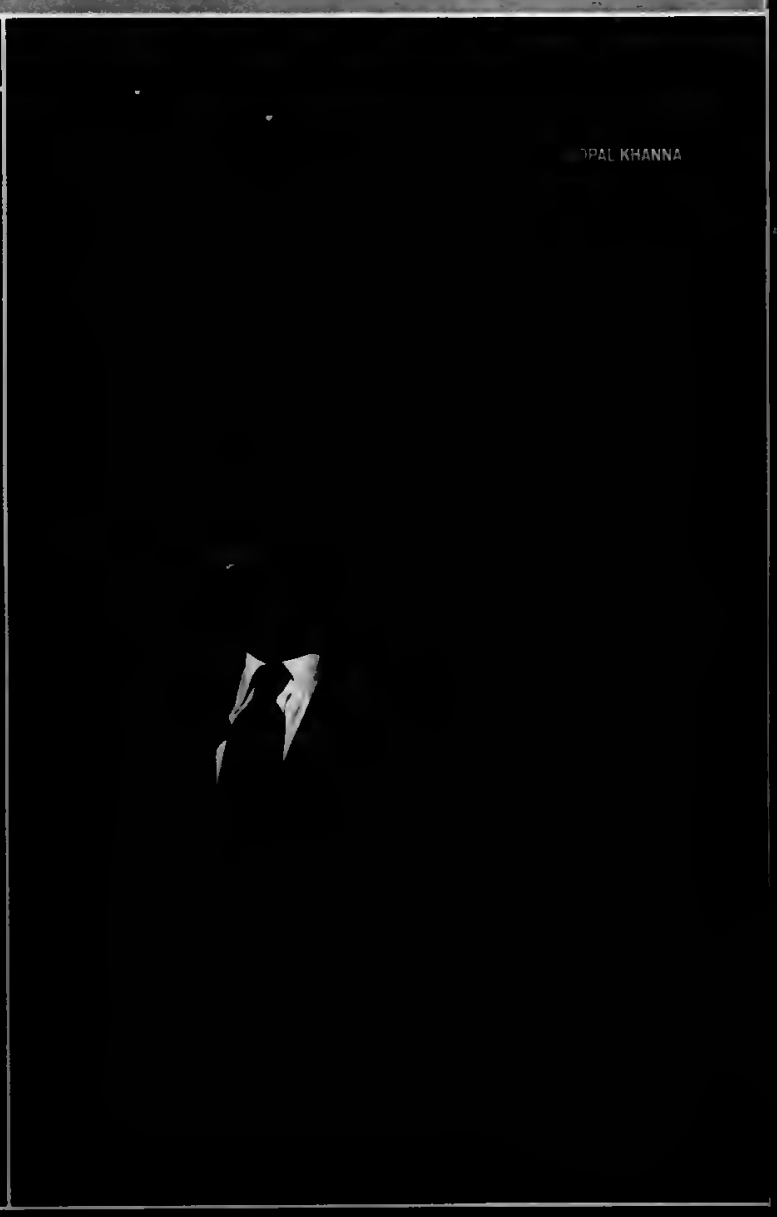

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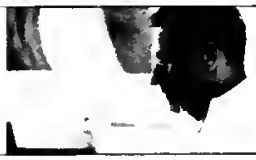

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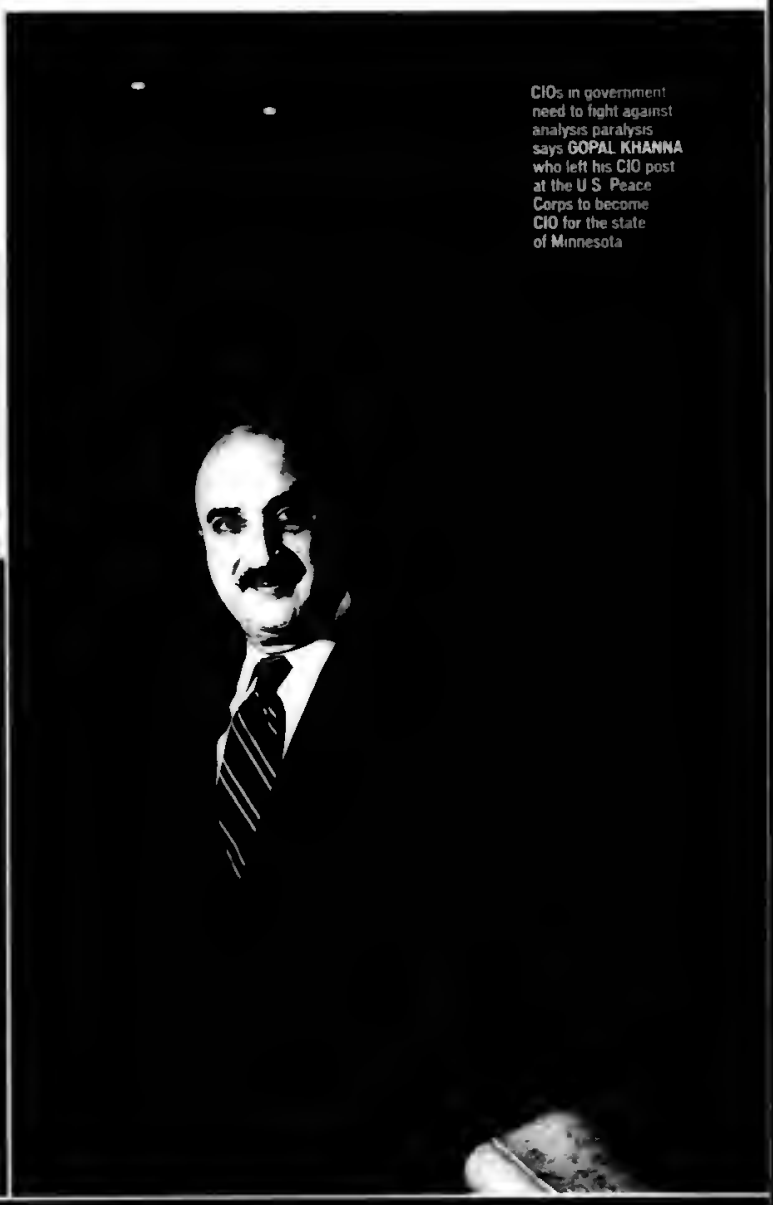
CIOs Move

By Mary K. Pratt



CIOs in government need to fight against analysis paralysis says **GOPAL KHANNA** who left his CIO post at the U.S. Peace Corps to become CIO for the state of Minnesota

new


IBM.

AMD 64 Opteron

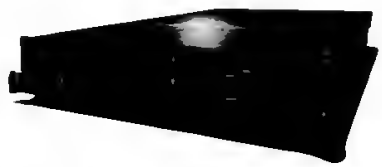
_INFRASTRUCTURE LOG

_DAY 28: These slow, inefficient boxes don't have enough power to run my high-end business apps. They can't do anything. Though I guess crashing counts as doing something.

_Need sleep. Will try to dream that I am I.T. King of a distant planet that only produces stupefyingly powerful servers.

_DAY 30: I've taken back control, thanks to the IBM System x™ server with the AMD Opteron™ Processor. It has more power and more efficiency than I ever imagined in a standards-based server. The PowerExecutive™ tool assigns power as needed for each server. It helps optimize our power consumption. Maximize performance. Increase reliability. I can finally sleep in my own bed again.

_I have taken back control. I am Ned, benevolent I.T. King of this...uh, data center.



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results — from company to company. Nonetheless, they also find the CIO job different from one organization to the next — even if it's in the same sector. Cultures, missions and budgets, which vary tremendously, all shape the work. Here are some tips and lessons freshly learned by CIOs on the move.

MEET AND GREET

> The first thing I had to do was understand their business.
>
> DEBORAH LIPSCOMB, CIO, CLUBCORP INC

CIOs say it's crucial to first learn the business by meeting with everyone you can. Those who move into a new industry should also learn the dynamics of that sector by reading trade publications, studying industry regulations and finding coaches among peers.

Last year, Deborah Lipscomb, who was CIO at Carlson Restaurants Worldwide Inc. in Carrollton, Texas, became senior vice president and CIO at Dallas-based ClubCorp Inc., which owns and operates country clubs. Although both are hospitality companies, IT's strategic role was different in each, she says. "The first thing I had to do was understand their business, figure out what they were trying to accomplish, how technology fits in with those objectives and how IT performed in the past," Lipscomb says.

This process required several passes. First, Lipscomb met with people to get to know them, then she met with them again to learn their business and goals, and finally, she started attending their meetings.

Before he started at Irvine, Calif.-based New Century, a real estate investment trust and mortgage finance company, Eckroth called a meeting with 60 or so senior-level IT people. He answered questions about his family, work style and management priorities during the three-hour session. Eckroth acknowledges that the meeting didn't lower all barriers to the "new guy." But "I got the walls broken down to a much lower height," he says. "I built credibility to get a start working with these people."

THINK STRATEGY

Learning a company's culture and business needs is an ongoing process, but as a new CIO, you can't spend too much time exclusively immersed in that. You'll need to come up with a strategic plan as the honeymoon phase ends.

"Somewhere [from] 90 to 120 days is the right time to start commenting on which direction to go," says Jeff Balagna, executive vice president and chief information and customer technology officer at Carlson Companies Inc. in Minnetonka, Minn. "People expect results, and if a year goes by and they haven't heard from you, they suspect you don't have a vision."

Balagna, who was previously CIO at Medtronic Inc. in Minneapolis, says he promised his new company's management team during his first week on the job that he'd get back to them with a strategy in three months — and he met that self-imposed deadline.

HOLD YOUR HORSES

> Coming in with the answers when you don't have a real deep sense of the environment is very dangerous.
>
> AMELIA TYNAN, CIO, TUFTS UNIVERSITY

CIOs often create similar time frames for themselves, but they also caution against rushing to action. "Coming in with the answers when you don't have a real deep sense of the environment is very dangerous," says Amelia "Mely" Tynan, who last year became vice president for IT and CIO at Tufts University in Medford, Mass., after six years as CIO at the University of Rochester in New York.

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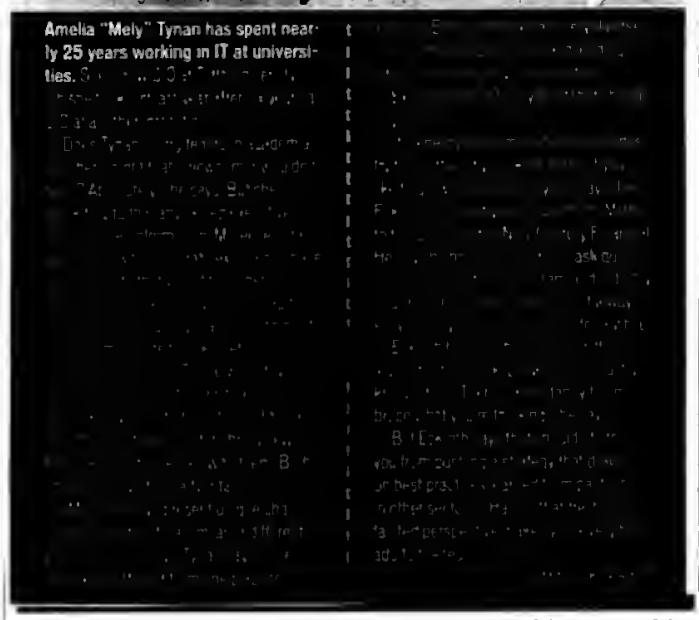
Same Job, New Industry



Amelia "Mely" Tynan has spent nearly 25 years working in IT at universities.

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The good old days are gone. In place of all those file cabinets, we now have electronic backup media, and IT holds the key to it all.

How important is it? Here's what can happen if your company is unable to tell what it has in a timely manner. In a lawsuit between businessman Ron Perelman and Morgan Stanley over a complicated deal, Perelman won. Or rather, Morgan Stanley lost. It lost because it didn't tell its opponents about backup tapes in its possession until after certain deadlines had passed. Morgan Stanley was late with this disclosure because more tapes turned up in a storage closet after deadline. It didn't lose on the facts of the lawsuit; it lost because the judge ruled that the company was flouting one of the fundamental obligations of our legal system: Tell what you have. This mistake cost Morgan Stanley $1.45 billion. (The verdict is being appealed.)

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Continued from page 43

results — from company to company. Nonetheless, they also find the CIO job different from one organization to the next — even if it's in the same sector. Cultures, missions and budgets, which vary tremendously, all shape the work. Here are some tips and lessons freshly learned by CIOs on the move:

MEET AND GREET

> The first thing I had to do was understand their business.
>
> **DEBORAH LIPSCOMB**, CIO, CLUBCORP INC.

CIOs say it's crucial to first learn the business by meeting with everyone you can. Those who move into a new industry should also learn the dynamics of that sector by reading trade publications, studying industry regulations and finding coaches among peers.

Last year, Deborah Lipscomb, who was CIO at Carlson Restaurants Worldwide Inc. in Carrollton, Texas, became senior vice president and CIO at Dallas-based ClubCorp Inc., which owns and operates country clubs. Although both are hospitality companies, IT's strategic role was different in each, she says. "The first thing I had to do was understand their business, figure out what they were trying to accomplish, how technology fits in with those objectives and how IT performed in the past," Lipscomb says.

This process required several passes. First, Lipscomb met with people to get to know them, then she met with them again to learn their business and goals, and finally, she started attending their meetings.

Before he started at Irvine, Calif.-based New Century, a real estate investment trust and mortgage finance company, Eckroth called a meeting with 60 or so senior-level IT people. He answered questions about his family, work style and management priorities during the three-hour session. Eckroth acknowledges that the meeting didn't lower all barriers to the "new guy." But "I got the walls broken down to a much lower height," he says. "I built credibility to get a start working with these people."

THINK STRATEGY

Learning a company's culture and business needs is an ongoing process, but as a new CIO, you can't spend too much time exclusively immersed in that. You'll need to come up with a strategic plan as the honeymoon phase ends.

"Somewhere [from] 90 to 120 days is the right time to start commenting on which direction to go," says Jeff Balagna, executive vice president and chief information and customer technology officer at Carlson Companies Inc. in Minnetonka, Minn. "People expect results, and if a year goes by and they haven't heard from you, they suspect you don't have a vision."

Balagna, who was previously CIO at Medtronic Inc. in Minneapolis, says he promised his new company's management team during his first week on the job that he'd get back to them with a strategy in three months — and he met that self-imposed deadline.

HOLD YOUR HORSES

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New Industry

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QUICK HITS

Global Priorities

Which of the following initiatives are likely to be one of your IT organization's major themes in 2006?

Base: 1,004 decision-makers at U.S., European and Asia-Pacific enterprises

SOURCE: FORRESTER RESEARCH INC. JUNE 2006

BARBARA GOMOLSKI

Tie Your IT Budget To Business Strategy

IT'S SUMMER, and that means vacations, barbecues and swimming. It also means IT budget planning — a dreaded exercise in many organizations. In my experience, budgeting is particularly painful in IT because most organizations lack an effective way to determine appropriate levels of IT investment. Correcting this situation requires setting IT investment levels that align with the overall business strategy. Sounds simple, but it's tricky to do.

The approach used in most organizations today is known as incremental budgeting. This involves looking at last year's IT budget and increasing or cutting the amount based on spending plans, corporate mandates, etc. The challenge with incremental budgeting is that it assumes that IT planners have a good grasp of the demands they will face in the coming year. It also assumes that the IT budget planner can correctly predict how pricing for hardware, software and services will evolve — no easy task.

The problem is that there are really not many viable alternatives to incremental budgeting. A very small portion of organizations practice what's called zero-based budgeting. This technique can be thought of as a "clean slate" approach. All expenses get rejustified on an annual basis. Given the nature of IT (and the high percentage of the IT budget that supports existing applications), zero-based budgeting doesn't work for most organizations.

With these challenges in mind, I offer the following best practices for IT budgeting:

Separate infrastructure (nondiscretionary) spending from applications (discretionary) spending. Infrastructure is an area where organizations generally look to reduce unit cost year over year. It's the part of the budget where we usually want to spend no more than is necessary to maintain acceptable service levels. It's also an area where industry pricing trends, upgrade plans and architectural shifts will have an effect on spending.

Therefore, the approach we take to nondiscretionary budgeting revolves around understanding the organization's consumption of infrastructure, market and pricing trends, and organizational issues, such as a mandate to outsource so-called commodity services.

To set accurate IT spending levels for infrastructure, IT planners need good data on the assets and labor under their control as well as on their current levels of use. Next, budget planners need a process for forecasting demand for infrastructure. The IT organization will need to work with business users to set policy and service levels in order to determine the real cost of infrastructure. (For example, how often will PCs be replaced?)

Avoid using published industry spending benchmarks as a mechanism to set spending levels. Benchmarks are great to get a sense of what the competition is doing. You don't want to use that data to guide your own investment levels, however. Push back on arbitrary spending caps that are derived solely on the basis of peer comparisons.

Take a portfolio approach to IT investments. For the discretionary part of the budget, determine what portion should go toward innovation, business improvement and other portfolio areas. This allows the business and IT to collectively build an investment strategy that supports the business strategy.

Determining whether the current level of investment in applications is correct requires examining whether the organization is supporting the right IT initiatives and whether those initiatives are providing the expected value to the business.

If it's shown that the company is not doing the right things (or not getting the expected value from IT), the level of IT investment is not necessarily wrong. Rather, it may mean that the company's approach to selecting IT investments is flawed or that the company failed to take advantage of potential business improvements supported by the IT initiatives.

Make your organization's business strategy the major driver of IT investment levels. For example, if your company plans to increase revenue by 5% through better customer retention but the IT investment plan calls for deep cuts in application spending, that is inherently out of whack.

Regardless of whether your organization is in a high or low period of IT investment, the focus of the IT budgeting should be twofold: helping the business align IT spending with business strategy, and prioritizing IT investments in conjunction with business goals. Ultimately, these two efforts are more important than the actual amount spent on IT.

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Keys to Maximizing Business Performance

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Ron Milton, Executive Vice President, Computerworld

Business Intelligence Best Practice and Technology Overview
Bill Hostmann, featured Research Vice President, Gartner

Competing on Analytics
Thomas Davenport, President's Distinguished Professor of Information Technology and Management, Babson College

Using Technology to Get Better Answers Faster
Keith Collins, Senior Vice President and Chief Technology Officer, SAS

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Database Administrator VE Carter Development Group, Milwaukee, WI. Design, implement and maintain a growing database environment, including analyzing requests for new technical functionality and recommending solutions. Requires a Master's degree in MIS, IT, Business or Computer Science and six months of training to database management. Additional duties and requirements. Email resume and cover letter to jsmollet@yahoo.com

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Ohio

The May 2 election marked the first use of Diebold's AccuVote TSx touch-screen systems in the county, which includes Cleveland and surrounding communities.

In a letter to the county commissioners, Hertzberg said the study found that voters did benefit from the e-voting systems, noting that the Diebold machines are easier to use than the punch-ballot systems they replaced. However, use of the TSx equipment should currently be viewed as a calculated risk for the county, he warned.

For example, the report said that 72% of the polling places demonstrated a discrepancy between the electronic record on memory cards and the paper ballots; 42% of the discrepancies involved problems with 25 votes or more.

ESI also told county officials that some of the voting equipment, including 87 paper rolls and 28 voting machines, was found to be missing prior to the start of the study. Therefore, the institute's report concluded that it is "unable to give a definitive opinion of the accuracy of the Diebold TSx system."

The report also suggested that printer malfunctions could cause "profound" election problems. Such problems could be caused by paper jams or rolls improperly loaded on to the machines. The report urged extensive training of personnel, printer testing and the creation of contingency plans in case of printer malfunction.

A Diebold spokesman last week questioned the methodology used in the study. For instance, he contended that the discrepancies between the paper ballots and electronic records were caused by matching paper votes with the wrong memory cards.

The spokesman also contended that ESI failed to take into account special procedures used for some voters, such as 17-year-olds allowed to vote on selected ballot questions who used separate memory cards.

In addition, the Diebold spokesman charged that ESI and the county commissioners released the report publicly despite hearing of the possible flawed methods earlier from Diebold officials.

In an August 16 letter sent to the county commissioners, Michael Lindroos, Diebold's vice president and counsel, said that the Allen, Texas-based company was "surprised and dismayed" by the publication of the report and noted that ESI did not let the vendor participate in the analysis of the election. "Diebold Election Systems equipment is reliable and accurate," Lindroos said.

The county expected some problems to be found in the study, considering that the election marked the first use of the TSx machines there, said Hugh Shannon, government service coordination manager for the county.

Shannon said the commission, ESI, Diebold and the election board "have agreed to meet and work through the issues of the report and have some more definitive answers by the end of the month to plan for [the] November [election]."

A spokesman for Ohio Secretary of State Kenneth Blackwell said the Diebold machines have been tested and certified by both the state and federal governments.

"The problems in the primary in Cuyahoga County were problems with the procedures and poll worker training," Blackwell said.

This report underscores that voting machines aren't used in a vacuum, noted Michael Shamos, a professor who specializes in e-voting and security issues at Carnegie Mellon University in Pittsburgh. The devices are used as part of a huge system of people, laws and procedures, he said.

Shamos noted that the paper trails didn't guarantee a safe, reliable election. "When machines fail," he said, "the paper trail doesn't work, either."

NetApp Unseated at NASA Unit

BY SHARON FISHER

The National Aeronautics and Space Administration's Solar Data Analysis Center is replacing a storage system from Network Appliance Inc. with what it says is a more agile array from Pillar Data Systems Inc.

The center, part of the NASA Goddard Space Flight Center in Greenbelt, Md., compiles scientific data from solar missions. Its goal is to understand the interior of the sun, solar wind, the solar atmosphere and solar activity such as flares and coronal mass ejections, according to Joseph Gurman, a facilities scientist.

The agency expects that the new device will make it easier to compile information from studies of the sun.

The organization began using network-attached storage arrays from Sunnyvale, Calif.-based NetApp in 1993. Gurman said that at the time, NetApp's products required less systems administration overhead than competing offerings did. "Machines tend to be cheaper than people," he said.

However, when the time came to replace the latest NetApp device, which was installed in 2002, the organization began looking at the offerings of San Jose-based Pillar as an option, Gurman said.

'Room to Breathe'

Gurman said the Pillar Axiom array offers a slightly lower price per terabyte and takes up less space. The NetApp device uses an entire 42U-high rack (1U equals 1.75 in. high), while the new devices use one-third of a rack, with room for expansion, he said.

"We'd like to get the old rack out of here so we have more room to breathe," he said.

The agency declined to disclose what it paid for the Pillar array. Pillar also declined to disclose the value of its contract with NASA but noted that a typical configuration of the array is priced at about $75,000.

NASA's solar center started using the Pillar Axiom array in February to mirror the 4.5TB to 5TB of data on a NetApp F840, Gurman said. Last week, the organization began using the Pillar Axiom as the primary array and the NetApp one as the mirror, he said. As it gets a new backup device during the next six months from an as-yet-undetermined vendor, the NetApp device will be retired, Gurman said.

Gurman said the new system will likely have to hold an additional 10TB to 15TB of data per year from a new research effort, slated to begin next month, that's aimed at helping scientists learn more about the propagation of solar events, Gurman said.

The solar center's future experience with the Pillar array could provide an example of what can happen when users choose a smaller, more nimble vendor over a long-entrenched one, said Greg Schulz, an analyst at The StorageIO Group in Stillwater, Minn.

Smaller vendors have more flexibility to get something qualified and can be hungrier to get something out first, he said. The downside is that users are taking a risk, he said.

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E-Voting Troubles

A study of 467 of 5,407 e-voting machines used in the May 2 primary election in Cuyahoga County, Ohio, found that

The report also suggested that printer malfunctions could cause "profound" election problems. Such problems could be caused by paper jams or rolls improperly loaded on to the machines. The report urged extensive training of personnel, printer testing and the creation of contingency plans in case of printer malfunction.

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FRANK HAYES ■ FRANKLY SPEAKING

We're All Types

FEELING STRESSED? Of course you are — you're in IT. And according to William Cross, a working CIO who has also done academic studies of IT people, all the stress of working in an IT department doesn't just produce health problems and high divorce rates for IT people with their Type A personalities. It also results in lower-quality software and more mistakes in IT operations (see story, page 1).

But wait — you say you're *not* feeling stressed? You're not a Type A personality? Your health, marriage and work quality are just fine? Say, maybe you don't really belong in IT, you weirdo.

Or maybe it's time to knock off one-size-fits-all IT management.

Lately here at *Computerworld*, we've seen a running debate about stereotypes of IT people. They're introverted nerds, says a professor at a major tech school. Not the ones I know, retorts the editor in chief. Sure we are, and what's wrong with that? chime in readers.

Well, some people think IT's reputation as a nerd ghetto is why fewer students have become computer science majors in recent years. Others are concerned that if IT people think of themselves as socially inept geeks, they'll never master the communication skills required to keep IT aligned with the needs of business and users.

But that's hogwash. In college, many students choose their majors according to where the money is. Reports of layoffs and outsourcing have thinned the ranks of CS majors, which will swell again as IT career prospects look better.

And, yes, IT people *can* communicate. If they couldn't, we'd never have successfully completed a single project or supported a single user over the past 40 years.

But there is a real fallacy in this geek-ur-no-geek debate: IT people simply aren't all the same. We don't want them to be all the same. We can't afford for them to be all the same.

And they certainly shouldn't be managed as if they're all the same.

A well-rounded IT staff isn't a collection of perfectly rounded individuals (which we can't afford, because hiring nothing but perfect specimens would cost a fortune). Instead, it's a motley crew with a mix of skills and strengths — technology skills, business skills, blue-sky thinking, concrete problem solving, attention to detail, ability to see the big picture, plodding reliability, adrenaline-pumped firefighting chops.

FRANK HAYES, *Computerworld*'s senior news columnist, has covered IT for more than 20 years. Contact him at frank_hayes@computerworld.com.

IT management's job is to build this very mixed bag of people into teams that meet business needs. Yes, a few may be well-rounded; more will be narrow specialists. Mixing and matching them requires organization, coordination and communication. That means choosing the right people for jobs, adjusting jobs for the people who fill them and shuffling teams so they have the right collection of skills, with strengths balancing weaknesses.

It also means understanding that every team, and every IT worker, requires lots of communication — along with careful care and feeding. Some IT people have the skills to handle that themselves. For those who don't, it's the manager's job to make sure people know what they're supposed to do, and to draw out problems from even the most taciturn of techies.

Which brings us back to Cross, the CIO who has studied stress in IT people. I'd wager he knows that not all technology people match his model of stress-riddled Type A personalities. But he also knows that CIOs and IT managers are better off paying careful attention to the corrosive effects of too much stress on IT people.

He even gives managers a hard-nosed, non-touchy-feely reason: It damages quality.

Sure, one-size-fits-all IT management is easy, but it's lazy. Do it right. Pay attention to what each of your IT people needs. The payoff is a healthier IT staff and less turnover — and fewer errors, which translate into better business results.

Besides, if you're an IT manager, it *is* your job.

Just don't get stressed about it. ▸

It's Just 100,000 Lines, That's All

Pilot fish is tapped to research what it will take to integrate a vendor's new product into a homegrown application. But he can't find technical information on it, so he schedules a meeting with the application guru, who tells him, "Yeah, we have lots of documentation already complete." Where can I find it? fish asks. "Well, what do you need specifically?" Architecture or design documents, interfaces, databases used. . . . "Oh, like I said, that's all out there," guru says. Where? fish asks again eagerly. "Well, tell me what you're looking for," repeats guru impatiently. "It's all there – just read the code."

SHARK TANK

Insecurity

Managed services provider is setting things up for a security company, and after many meetings, everyone agrees that secure FTP is the best way to transfer the files containing sensitive customer and sales information. "They seemed excited by the prospect of encryption," says a pilot fish on the managed services side. "Within a day or two of the decision, we coordinated with their IT department to obtain the log-in information. . . . We received our log-in and password to their 'secure' FTP site – via standard e-mail. I neglected to follow up with them on their own internal security procedures, but we requested a password change within minutes."

Insecurity II

Newly hired IT contractor will need remote network access, so this pilot fish uses the company's intranet-based application to set it up for him. That includes coming up with a secret question and answer as the user can be authenticated when he calls the help desk. "But the system assumes the person filling out the request is also the one who'll be using the access," grumbles fish. "It asked me to come up with the question and answer, not the contractor. The result? His question is 'Why is this an insecure process?' and the answer is 'Poor design.' "

No, That's Not It

Company changes e-mail systems and begins to remove deleted e-mail automatically after two weeks instead of leaving that to users. And that makes one user howl. "Turns out he stores all his e-mails in the Deleted Items folder as soon as he reads them, because he can get them out of his in-box with just a click on the big 'X,' " says an IT pilot fish there. "I suggested that he create a folder for items he didn't want to disappear. His first reaction: 'You mean I have to make a new folder called Deleted Mail when there already is one?' "

SAVE YOUR BEST true tale of IT life and send it to me at **sharky@computerworld.com**. You'll snag a snazzy Shark shirt if I use it. And check out Sharky's blog, browse the Sharkives and sign up for Shark Tank home delivery at **computerworld.com/sharky**.

FRANK HAYES ■ FRANKLY SPEAKING

We're All Types

FEELING STRESSED? Of course you are — you're in IT. And according to William Cross, a working CIO who has also done academic studies of IT people, all the stress of working in an IT department doesn't just produce health problems and high divorce rates for IT people with their Type A personalities. It also results in lower-quality software and more mistakes in IT operations (see story, page 1).

But wait — you say you're *not* feeling stressed? You're not a Type A personality? Your health, marriage and work quality are just fine? Say, maybe you don't really belong in IT, you weirdo.

Or maybe it's time to knock off one-size-fits-all IT management.

Lately here at *Computerworld*, we've seen a running debate about stereotypes of IT people. They're introverted nerds, says a professor at a major tech school. Not the ones I know, retorts the editor in chief. Sure we are, and what's wrong with that? chime in readers.

Well, some people think IT's reputation as a nerd ghetto is why fewer students have become computer science majors in recent years. Others are concerned that if IT people think of themselves as socially inept geeks, they'll never master the communication skills required to keep IT aligned with the needs of business and users.

But that's hogwash. In college, many students choose their majors according to where the money is. Reports of layoffs and outsourcing have thinned the ranks of CS majors, which will swell again as IT career prospects look better.

And, yes, IT people *can* communicate. If they couldn't, we'd never have successfully completed a single project or supported a single user over the past 40 years.

But there is a real fallacy in this geek-or-no-geek debate: IT people simply aren't all the same. We don't want them to be all the same. We can't afford for them to be all the same.

And they certainly shouldn't be managed as if they're all the same.

A well-rounded IT staff isn't a collection of perfectly rounded individuals (which we can't afford, because hiring nothing but perfect specimens would cost a fortune). Instead, it's a motley crew with a mix of skills and strengths — technology skills, business skills, blue-sky thinking, concrete problem solving, attention to detail, ability to see the big picture, plodding reliability, adrenaline-pumped firefighting chops.

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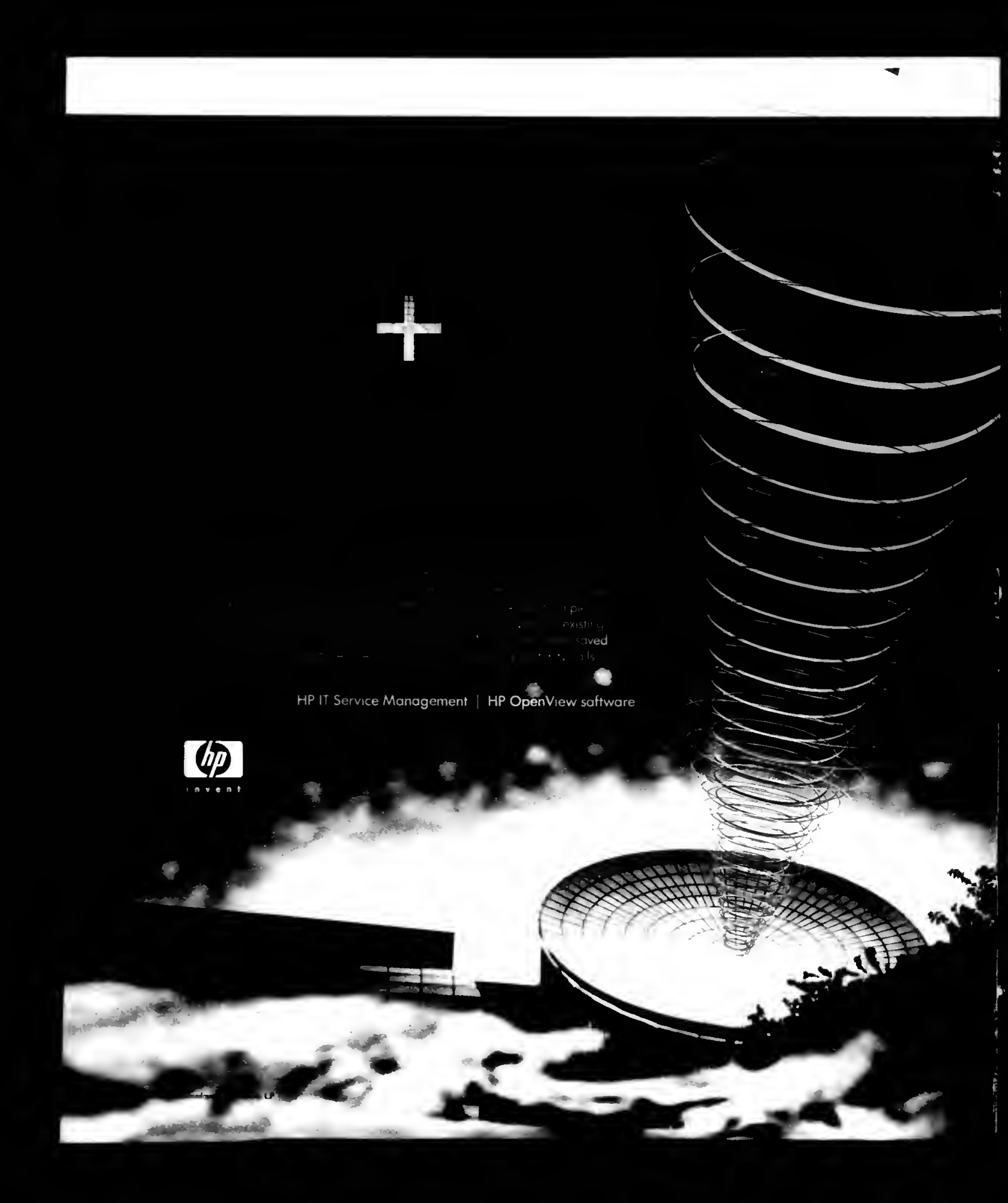
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